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The Commonwealth of Massachusetts

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ANNUAL REPORT

OF THE

Department of Public Works

FOR THE YEAR ENDING NOVEMBER 30, 1930









# The Commonwealth of Massachusetts

## ELEVENTH ANNUAL REPORT

OF THE

## DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1930.

*To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts.*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the eleventh annual report of the Department of Public Works for the year ending November 30, 1930.

The organization of the Department, as defined in chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:—

Commissioner of Public Works, FRANK E. LYMAN.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, HERMAN A. MACDONALD.

The Department has constructed during this year a greater mileage of highways than has been built in any previous year. The roadbuilding program was advanced materially early in the year in order to assist in the relief of the unemployment situation in the Commonwealth.

The mileage of new State highways laid out during the year amounted to 55.064 miles, but there was abandoned or discontinued in the year 13.985 miles of State highway due to change in alignment or cut-offs in order to improve certain routes, so that the net mileage of State highways amounted to 1,668.836 miles at the end of the year.

The Department has constructed, reconstructed and widened 132 miles of State highways and built in cooperation with cities, towns and counties under provisions of chapter 90, General Laws, a total of 208 miles of roads, a considerable increase over the mileage built last year. Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and maintenance of about 8,200 miles of public ways, exclusive of State highways, in 170 towns. The Department's total expenditure for the year has amounted to about \$15,000,000.

The Department is adopting to a greater extent than before wider types of pavements, many miles built this year being 30 and 40 feet in width to provide for greater volumes of traffic.

The State highway projects have included the following:—The widening of that portion of the Newburyport Turnpike from Danvers to Newburyport was completed during the year, affording now a traffic artery at least 30 feet in width for the full length of that road. The reconstruction and widening of portions of the Mohawk Trail route in Erving, Orange and Greenfield, a total of about seven miles; the reconstruction of portions of the Jacobs Ladder route, in the towns of Chester, Becket and Lee, a total of about twelve miles; the beginning of the construction of a considerable portion of the new Boston to Worcester turnpike, covering a distance of about twelve miles from Southborough to the Worcester line, which will provide a double roadway having a total present surface width of 40 feet of cement concrete, one of the most advanced types of highway for through traffic, with especially designed structures or bridges at important crossroads for separation of grades, permitting the continuous flow of traffic such as at Grafton Street in Shrewsbury, Milk and East Main streets in Westborough, and at the Cordaville road in Southborough; the new State highway extending from Bridgewater to a point on the State highway south of Middleborough, a distance of about twelve miles, affords a new route, although on the line for some distance, of the old Bedford Turnpike, which by-passes Middleborough; on route No. 3 from Boston to Plymouth the reconstruction of State highway in Weymouth, Hanover and Pembroke, a total distance of about seven miles, affords a by-pass for through traffic avoiding the village of Hanover Four



Corners. A start has been made in the improvement of the Boston-Providence route, including a by-pass avoiding Attleborough, and another road from South Attleborough to the State line, affording a route to Newport and to points in Massachusetts, to the south and east, which will by-pass both Pawtucket and Providence. On the easterly side of the Cape Cod Canal a new State highway has been constructed from Bourne to Sagamore and thence by a new location on a by-pass around the village of Sandwich, a total distance of about seven and a half miles of bituminous concrete, affording beautiful views of the beaches and shore, particularly at the easterly portion of this route.

The elimination of two grade crossings on important traffic routes has been begun, one in Weston at Stony Brook Station, and the other in Charlemont. In each case the highway will pass over the railroad. On the Jacobs Ladder route also the State highway has been relocated to avoid a dangerous over-pass and a dangerous under-pass.

Several bridges of importance have been in this year's work. The Parker River bridge in Newbury was completed. A large truss bridge was built in Sandisfield over the Farmington River, at New Boston Village. A contract has been let also for the construction of the new Tyngsborough Bridge spanning the Merrimack River and main tracks of the Boston and Maine Railroad.

One of the important special act improvements was the completion of the portion of the circumferential route in Braintree, Weymouth and Hingham.

In the matter of maintenance of highways the Department has improved the marking of routes by the use of headlight reflecting buttons in the route markers as a great aid for night driving, particularly at important route intersections. In the matter of snow removal the Department has kept its equipment in first-class condition by the purchase of the highest types of snow removal machinery adapted to conditions in this State. In the general maintenance of the highways the increasing mileage has been kept in a first-class condition by the use of new methods and materials and at no substantial increase in annual outlay. During the year 276 signs have been erected by the Department in carrying out the provisions of the Resolve providing that such signs be erected to mark places of interest selected by the Tercentenary Commission.

For the improvement of waterways the Department has completed dredging in Weir River and in Boston Harbor near the Atlantic Avenue waterfront, and in the approach to the Cunard Docks at East Boston, as well as certain areas in Dorchester Bay near Savin Hill and Commercial Point. The construction of a dike at Provincetown is part of important reclamation work.

The Department prepared a very comprehensive display portraying the work of this Department as part of the State's Tercentenary Exhibit, which was commented upon favorably by many.

The engineering and clerical staff of the Department and the Registry of Motor Vehicles was as follows:—

Chief Engineer, ARTHUR W. DEAN.

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND C. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

#### District Highway Engineers:

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.



District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor, — JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor, FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

### *Registry of Motor Vehicles*

Registrar, GEORGE A. PARKER.

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,  
*Commissioner of Public Works.*

DECEMBER 1, 1930.

### SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

The advisability and cost of constructing a way for motor vehicles and other traffic in the city of Newton and the town of Weston. Report made Nov. 30, 1929, by a Joint Board consisting of the Division of Metropolitan Planning of the Metropolitan District Commission and the Department of Public Works, under chapter 19, Resolves of 1929. (Senate 12 of 1930.)

The laying out, construction and widening of certain highways in East Boston and Revere. Report made Dec. 4, 1929, by the Department of Public Works, under chapter 23, Resolves of 1929. (House 130 of 1930.)

Further study of the matter of protecting cities and towns in the Hoosac River Valley from flood damage. Report made Dec. 4, 1929, by the Department of Public Works, under chapter 36, Resolves of 1929. (House 152 of 1930.)

Immediate relief of the traffic problem on the parkway at Revere Beach Reservation and elsewhere in the city of Revere. Report made Dec. 4, 1929, by the Department of Public Works, under chapter 44, Resolves of 1929. (House 174 of 1930.)

The most appropriate methods of disposing of minor infractions of the motor vehicle laws. Report made Dec. 4, 1929, by the Department of Public Works, under chapter 45 of the Resolves of 1929. (Senate 5 of 1930.)

Reconstructing the Saugus River Bridge between the cities of Revere and Lynn. Report made Nov. 27, 1929, by a Joint Board, consisting of the Metropolitan District Commission and the Department of Public Works, under chapter 25, Resolves of 1929. (House 154 of 1930.)

The abolition of grade crossings. Report made December, 1929 by a Special Commission, created under the provisions of chapter 30, Resolves of 1929. (House 200 of 1930.)

Further investigation of the advisability of filling in part of Fort Point Channel and South Bay in Boston Harbor. Report made on Dec. 4, 1929, by a Special Commission created under the provisions of chapter 48, Resolves of 1929. (House 190 of 1930.)

### RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 4, 1930, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—



1. *Extending the Powers of the Department of Public Works relative to the Taking and Laying out of State Highways*

In order to expedite the procedure in the matter of laying out of State highways, it is recommended that, in addition to the present provisions of law relating thereto, which provide that county commissioners, aldermen or selectmen may file a petition with the Department of Public Works requesting that the Department lay out and take charge of as a State highway any new or existing way, the Department of Public Works be authorized, also, to lay out and take charge of any way as a State highway if the Department determines that public necessity and convenience so require.

2. *Authorizing the Collecting and Regulating the Disposition of Fees for Certain Permits and Licenses issued by the Department of Public Works*

In connection with the granting of permits by the Commissioner of Public Works under the provisions of section 30 of chapter 85, and section 19 of chapter 90, of the General Laws, and by the Department of Public Works for the opening up of State highways by others for any purpose under section 21 of chapter 81 of the General Laws, the Department recommends that a nominal fee of \$1 should be charged for the issuance of such permits. In connection with the granting of licenses for structures to be built or maintained under the provisions of section 18 of chapter 91 of the General Laws, the Department recommends that it should be authorized at its discretion to charge a nominal fee of \$5 for the issuance of such licenses.

3. *The Operation within the Commonwealth of certain Motor Vehicles owned by Non-Residents*

In order to clarify the law relating to the definition of non-residents and the matter of registration of vehicles of a non-resident of this State, the Department recommends further legislation.

4. *Restricting the use of the Records of the Registrar of Motor Vehicles*

In order to insure that the records of the Registrar of Motor Vehicles shall be used principally, in so far as the public is concerned, for their protection in recovering damages after accidents and related matters, and by governmental agencies in the collection of taxes and the enforcement of the laws, certain procedure is recommended regarding their use, and provision made that fees may be charged for information requested.

5. *Regulating Notices of Cancellation for non-payment of Insurance Premiums by Finance Companies and Insurance Companies and delaying Revocation of Registration until Number Plates are Returned*

The matter of the cancellation of registrations of motor vehicles for the non-payment of premiums, and the revocations of registrations incident thereto, in effect making the Registry of Motor Vehicles a collections agency in many cases, should be corrected. It is desirable that a registration of a motor vehicle should not be revoked in such cases unless the plates are returned, and, as a registration is good for the entire year, the insurance certificate covering it should also be good for the entire year, regardless of the financial contract, or at least the insurance certificate should cover the vehicle described until the person or company insuring it secures and surrenders the plates to the Department.

6. *Transfer of Ownership of Registered Motor Vehicles*

The motor vehicle law should provide for the legal registration of a motor vehicle in cases where the transfer of ownership and sale are contemplated, and to give the owner the privilege of exchanging plates from one car to another when there is a bona fide transfer of ownership of one vehicle and the purchase of another.

7. *Revising the Definition of Motor Vehicles*

The definition of motor vehicles as now defined to include motor-propelled, slow-moving road machinery, as provided by legislation passed in 1930, should be revised and restore them to their former status.



8. *Authorizing the Department of Public Works to construct a certain State Highway and other improvements in the City of Revere*

The Department recommends the construction of a highway in Revere beginning at the Revere Beach Parkway at or near the Revere Station of the Boston and Maine Railroad, thence extending northeasterly to a point on the so-called North Shore Road in the vicinity of Revere Street, with such connections or proper intersections with other ways as may be necessary. The determination of the details of such a highway should be made by the Department after careful surveys as to the most advisable route to follow.

APPROPRIATIONS

Chapter 115, Acts of 1930, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

Item	<i>Requirements for Extinguishing the State Debt</i>	
219.	For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of one million one hundred one thousand six hundred seven dollars and fifty cents, payable from the following accounts and funds in the following amounts:— from receipts from loans for the abolition of grade crossings, the sum of thirty-four thousand dollars; from the Highway Fund, the sum of three hundred twenty-seven thousand six hundred seven dollars and fifty cents; and the remainder from the general fund . . . . .	\$1,101,607 50

*Interest on the Public Debt*

220.	For the payment of interest on the direct debt and temporary loans of the commonwealth, a sum not exceeding eight hundred ninety-three thousand seven hundred seventy-five dollars and seventy-five cents, of which sum three hundred eight thousand sixteen dollars and twenty-five cents shall be paid from the Highway Fund	893,775 75
298.	For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred seventy-five thousand dollars, of which sum not more than twenty-eight thousand dollars may be charged to the Highway Fund .	175,000 00
306.	For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred fourteen thousand dollars, of which sum not more than twenty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so-called .	214,000 00

*Service of the Department of Public Safety*

Division of State Police:

657.	For the salaries of officers, including detectives, a sum not exceeding three hundred sixty thousand dollars, of which sum not more than one hundred ten thousand dollars may be charged to the Highway Fund . . .	360,000 00
659.	For other necessary expenses of the uniformed division, a sum not exceeding three hundred sixty thousand dollars, of which sum not more than one hundred eleven thousand dollars may be charged to the Highway Fund	360,000 00



## Item

*Service of the Department of Public Works*

The appropriations made in the following three items are to be paid two thirds from the Highway Fund and one third from the Port of Boston receipts:

680.	For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars . . . . .	\$19,500 00
681.	For personal services of clerks and assistants to the commissioner, a sum not exceeding ten thousand eight hundred dollars . . . . .	10,800 00
682.	For traveling expenses of the commissioners, a sum not exceeding four thousand dollars . . . . .	4,000 00
	Total . . . . .	<u>\$34,300 00</u>

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

683.	For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding eighty-three thousand eight hundred dollars . . . . .	83,800 00
684.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding twelve thousand dollars . . . . .	12,000 00
685.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding fourteen thousand dollars . . . . .	14,000 00
686.	For the construction and repair of town and county ways, a sum not exceeding two million one hundred and fifty thousand dollars . . . . .	2,150,000 00
687.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million dollars . . . . .	1,000,000 00
688.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, and for care and repair of road-building machinery, a sum not exceeding five million six hundred and fifty thousand dollars . . . . .	5,650,000 00
689.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding six million dollars . . . . .	6,000,000 00
690.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand dollars, to be paid from the General Fund . . . . .	15,000 00
691.	For Daniel O'Connell's Sons Company, in settlement of a claim, the sum of three hundred fifty-five dollars and fifteen cents. This amount shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payment is accepted in full compensation on the part of the commonwealth in respect thereto . . . . .	355 15

## Registration of Motor Vehicles:

692.	For personal services, a sum not exceeding eight hundred ninety thousand dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund . . . . .	890,000 00
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## Item

693.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding five hundred sixty thousand dollars, to be paid from the Highway Fund . . . . .	\$560,000 00
694.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding twenty-five hundred dollars, to be paid from the Highway Fund . . . . .	2,500 00

## Special:

695.	For the construction and reconstruction of certain highways, as authorized by chapter three hundred and sixty-four of the acts of nineteen hundred and twenty-nine, a sum not exceeding one hundred seven thousand one hundred dollars, to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose . . . . .	107,100 00
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## Functions of the department relating to waterways and public lands:

696.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-two thousand dollars . . . . .	52,000 00
697.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding twenty-five hundred dollars . . . . .	2,500 00
698.	For the care and maintenance of the province lands and of lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars . . . . .	5,000 00
699.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding forty thousand dollars . . . . .	40,000 00
700.	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding one hundred twenty-five thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered . . . . .	125,000 00
701.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as amended, a sum not exceeding one thousand dollars . . . . .	1,000 00



## Item

702.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding forty-five hundred dollars . . . . .	\$4,500 00
703.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred ten thousand dollars, to be paid from the Port of Boston receipts . . . . .	110,000 00
704.	For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars, to be paid from the Port of Boston receipts . . . . .	8,000 00
705.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding ninety thousand dollars, to be paid from the Port of Boston receipts . . . . .	90,000 00
706.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding five thousand dollars . . . . .	5,000 00
707.	For the compensation of dumping inspectors, a sum not exceeding five thousand dollars . . . . .	5,000 00
708.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars . . . . .	4,000 00

## Specials:

709.	For dredging channels and filling flats, a sum not exceeding seventy-five thousand dollars, to be paid from the Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose . . . . .	75,000 00
710.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding six thousand dollars . . . . .	6,000 00
711.	For the construction of railroads and piers and for the development of land at South Boston and East Boston, a sum not exceeding ten thousand dollars, to be paid from the Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose . . . . .	10,000 00

The following six items are to be paid from the Highway Fund:

733.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding two hundred sixty-three thousand six hundred and fifty dollars, representing the state's portion or one half of the estimated cost of maintenance . . . . .	263,650 00
734.	For resurfacing of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding one hundred thousand dollars, representing the state's portion or one half of the estimated cost of resurfacing . . . . .	100,000 00
734a.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, to provide for the payment of certain deficiencies incurred on account of the construction of the Neponset bridge, so-called, the sum of one hundred eighty-seven dollars and fifty cents, representing the state's portion or one-quarter of the total deficiencies . . . . .	187 50
735.	For the construction of certain boulevards, as authorized by chapter three hundred and thirty-four of the acts of nineteen hundred and twenty-nine, a sum not exceeding . . . . .	



Item

	one hundred eighty-five thousand five hundred dollars, representing the remainder of the state's portion of the estimated cost of construction, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	\$185,500 00
736.	For certain improvements in the Charles River basin, as authorized by chapter three hundred and seventy-one of the acts of nineteen hundred and twenty-nine, a sum not exceeding one hundred fifty-five thousand dollars, representing the state's portion of the cost of such improvements required for the current year, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	155,000 00
737.	(This item omitted.)	
738.	For maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding fifty-five hundred dollars . . . . .	5,500 00

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

*Department of Public Works*

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, and for care and repair of road-building machinery, the sum of two hundred thirty-four dollars and ninety-three cents, to be paid from the Highway Fund	234 93
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Chapter 426, Acts of 1930, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows: —

*Service of Special Legislative Investigations*

32c.	For expenses of a further investigation by an unpaid special commission relative to the filling of navigable waters in a part of Fort Point Channel and South Bay, as authorized by chapter twenty-nine of the resolves of the present year, a sum not exceeding two thousand dollars	2,000 00
32d.	For expenses of a special unpaid commission to investigate relative to the advisability of the construction by the commonwealth of a fish pier in Gloucester harbor, as authorized by chapter thirty-two of the resolves of the present year, a sum not exceeding five thousand dollars . . . . .	5,000 00

*Service of the Treasurer and Receiver-General*

219.	To meet in part the appropriation required for serial bonds maturing during the present year, the sum of two hundred fifty thousand dollars shall be taken from the balance of the receipts of the sale of the Boston dry dock.	
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*Service of the Department of Public Works*

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

686.	For the construction and repair of town and county ways, a sum not exceeding six hundred fifty thousand dollars,	
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## Item

- the same to be in addition to any amount heretofore appropriated for the purpose . . . . . \$650,000 00
689. For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding one hundred fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . . 150,000 00

## Registration of Motor Vehicles:

692. For personal services, a sum not exceeding ten thousand dollars, to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose . . . . . 10,000 00
693. For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding fifty-nine thousand dollars, to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose . . . . . 59,000 00

The sum of one hundred thousand dollars is hereby transferred from the appropriation made in item six hundred and eighty-seven of the general appropriation act of the present year, and the same amount is added to item six hundred and eighty-six.

## Functions of the department relating to waterways and public lands:

700. For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding fifty thousand dollars, to be in addition to any amount heretofore appropriated for the purpose, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered . . . . . 50,000 00

## Specials:

- 708a. For the cost of constructing a dike on province lands in the town of Provincetown, as authorized by chapter three hundred of the acts of the present year, a sum not exceeding twenty thousand dollars . . . . . 20,000 00
709. For dredging channels and filling flats, a sum not exceeding ninety thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and to be paid from the receipts from the Port of Boston or general fund . . . . . 90,000 00



Item *Metropolitan District Commission (Highway Fund)*

The following items are to be paid from the Highway Fund:

733.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding sixty-two hundred and fifty dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	\$6,250 00
734a.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, to provide for the payment of certain deficiencies incurred on account of the construction of the Neponset bridge, so-called, the sum of seventy dollars and twenty-five cents, representing the state's portion of one quarter of the total deficiencies, and to be in addition to any amount heretofore appropriated for the purpose . . . . .	70 25
737.	For the cost of reconstructing a section of boulevard in the Middlesex Fells reservation, a sum not exceeding one hundred thirty thousand dollars . . . . .	130,000 00

*Unclassified Accounts and Claims*

Payments for certain claims authorized by the following appropriations shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted in full compensation on the part of the commonwealth in respect thereto:

751b.	For Clara Boyce of Warren, Rhode Island, the sum of four thousand and ninety-eight dollars, and for Frank A. Boyce of Seekonk, Massachusetts, the sum of forty-eight hundred sixty-six dollars and fifty cents, both in compensation for injuries sustained in an automobile accident, as authorized by chapter twenty-one of the resolves of the present year, and to be paid from the Highway Fund . . . . .	8,964 50
751f.	For the American-Hawaiian Steamship Company, in settlement of a certain claim, as authorized by chapter thirty-four of the resolves of the present year, the sum of three thousand dollars . . . . .	3,000 00
751g.	For Giles E. Hopkins of Arlington, the sum of nine hundred sixty-seven dollars and sixty-six cents, for Arnold A. Goodwin of said town, the sum of fifteen hundred ninety-seven dollars and thirty-two cents, and for Roswell Eldridge of Lexington, the sum of nineteen hundred forty-eight dollars, severally in compensation for injuries sustained in an automobile accident, as authorized by chapter thirty-nine of the resolves of the present year, and to be paid from the Highway Fund . . . . .	4,512 98
751h.	For the parents of John F. Grant, as authorized by chapter forty of the resolves of the present year, the sum of three thousand dollars, to be paid from the Highway Fund . . . . .	3,000 00

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

*Service of the Department of Public Works*

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and



## Item

	lights, and payment of damages caused by defects in state highways with the approval of the attorney general, and for care and repair of road-building machinery, the sum of six hundred seventy-four dollars and eighteen cents, to be paid from the Highway Fund .	\$674 18
For	the purpose of enabling the department of public works to secure federal aid for the construction of highways, the sum of twelve hundred fifty-one dollars and thirty-nine cents, to be paid from the Highway Fund . .	1,251 39
For	the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, the sum of eighty-seven dollars and ninety-six cents, to be paid from the Port of Boston receipts . . . . .	87 96

*Metropolitan District Commission*

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, and to be expended under the direction and with the approval of the metropolitan district commission:

767a.	For the cost of an investigation by an unpaid special commission of the general subject of the discharge of sewage into Boston harbor, as authorized by chapter twenty-nine of the resolves of nineteen hundred and twenty-nine, a sum not exceeding thirty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and to be assessed in accordance with said resolve . . . . .	30,000 00
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## OTHER APPROPRIATIONS

*Service of Legislative Investigations*

32o.	For expenses of an investigation relative to the future policy of the commonwealth with regard to the maintenance by the commonwealth of bridges, as authorized by chapter sixty-three of the resolves of the present year, a sum not exceeding twenty-five hundred dollars, to be paid from the Highway Fund . . . . .	2,500 00
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*Service of the Department of Public Works*

686a.	For expenses on account of the removal of certain highway bridges over the former location of the Hampden Railroad Corporation, as authorized by chapter three hundred and eighty-eight of the acts of the present year, a sum not exceeding thirty thousand dollars, to be paid from the Highway Fund . . . . .	30,000 00
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The expenses required to carry out the provisions of chapter four hundred and six of the acts of the present year may be paid out of item six hundred and eighty-eight of chapter one hundred and fifteen of the acts of the present year.

*Service of the Massachusetts Bay Colony Tercentenary Commission*

184a.	For certain expenses approved by the Massachusetts Bay Colony tercentenary commission, as authorized by chapter sixty-eight of the resolves of the present year, a sum not exceeding seventy-five thousand dollars .	75,000 00
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Item                      *Service of the Treasurer and Receiver-General*

219. To meet in part the appropriation required for serial bonds maturing during the present year, the sum of two hundred fifty thousand dollars shall be taken from the balance of the receipts of the sale of the Boston dry dock.

*Service of the Department of Public Works*

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

686.	For the construction and repair of town and county ways, a sum not exceeding fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	\$50,000 00
689.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding one hundred fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	150,000 00
For expenditures authorized by chapter four hundred and twenty of the acts of the present year, the following amounts are hereby appropriated, to be paid from the Highway Fund:		
693a.	For authorized expenditures by the department of public works, a sum not exceeding six hundred forty thousand dollars . . . . .	640,000 00
737a.	For authorized expenditures by the metropolitan district commission, a sum not exceeding eighty thousand dollars . . . . .	80,000 00

FINANCIAL STATEMENTS  
SUMMARY OF INCOME

YEAR ENDING NOV. 30, 1930

*Highway Fund*

Ch. 288, Acts of 1925

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts . . . . .	\$7,185,456 63	
Gasoline tax, gross . . . . .	10,504,736 85	
Contributions for highways and assessments (G. L., Ch. 81) . . . . .	1,150,067 41	
Appropriation balances of previous years reverting . . . . .	108,226 45	
Reimbursement for repairs to guard rails . . . . .	10,155 57	
Sale of old materials . . . . .	1,395 92	
Refunds . . . . .	4,775 55	
		\$18,964,814 38

*Port of Boston Fund*

Ch. 91, General Laws

Rent (leases and permits) . . . . .	\$216,893 62	
Reimbursement for services (inspection of dumping dredged material in Boston Harbor) . . . . .	3,083 39	
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.) . . . . .	193,241 86	
Use of Commonwealth Pier No. 1 (rentals, etc.) . . . . .	637 69	
Use of Hayward Creek Property (rentals) . . . . .	168 00	



Revenue from permits for dumping dredged material at receiving basins . . . . .	\$5,622 09	
License charges (for tidewater displacement and occupying Commonwealth tide lands) Boston Harbor . . . . .	200,726 28	
Telephone pay station receipts . . . . .	99 83	
Sales of land, South Boston . . . . .	25,025 00	
Sales of Boston Harbor maps . . . . .	34 50	
Refunds . . . . .	148 44	
		<hr/>
		\$645,680 70

*Department Income*  
(Ordinary Revenue)

Reimbursement for services (heating D Street Building) . . . . .	\$232 00	
Sales (specifications and plans for contracts) . . . . .	748 18	
Interest on Bank accounts . . . . .	1,927 98	
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, ch. 196, Acts of 1925) . . . . .	1,203 88	
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor . . . . .	8,450 12	
Certified copying charges . . . . .	142 00	
Sale of Atlas sheets and miscellaneous plans . . . . .	957 85	
Use of Province Lands (§ 25, C. 91, G. L.) . . . . .	301 85	
Permits for advertising signs . . . . .	18,811 34	
Use of New Bedford State Pier . . . . .	7,621 58	
Highway and route maps and bulletins . . . . .	50 00	
		<hr/>
		\$40,446 78

*Improvement of Rivers and Harbors Trust*  
Sections 11, 29, ch. 91, Gen. Laws

Contributions from towns, individuals or others . . . . .	\$201,422 07
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*Highway Trust*  
(Section 30, Ch. 81, Gen. Laws)

Federal Aid (reimbursement from U. S. Government) . . . . .	\$1,264,131 53	
		<hr/>
		\$1,264,131 53
Total . . . . .		<hr/>
		\$21,116,495 46

EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 115 and 426, Acts of 1930, during the fiscal year ending Nov. 30, 1930, were as follows:

ADMINISTRATIVE

Commissioners, Associate Commissioners, personal services of clerks, stenographers, and commissioners travel . . . . .	\$30,937 82
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RELATING TO HIGHWAYS

<i>Personal Services</i> —Chief Engineer, clerks and stenographers . . . . .	82,893 97
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*State Highways*—Construction (Chap. 81 G. L.)

General Contract Work . . . . .	\$3,147,392 06
Engineering (Supervision) . . . . .	473,028 01
Rent of office, Commonwealth Pier 5 . . . . .	8,250 00
Highway Testing Laboratory . . . . .	12,311 91

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\$3,640,981 98



*Maintenance and Repair of State Highways*

(Chapter 81, General Laws)

*Reconstruction of State Highways*

General contract work . . . . .	\$4,384,531 85
Engineering, supervision on reconst. . . . .	467,214 86

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\$4,851,746 71*Ordinary Maintenance*

General Maintenance . . . . .	\$1,049,187 82
Engineering (supervision) . . . . .	288,416 07
Highway Testing Laboratory . . . . .	10,824 07
Laboratory machinery . . . . .	2,271 76
Care and repair of road building machinery	206,667 55
Removal of snow from highways . . . . .	422,698 14
Roadside planting and development . . . . .	44,383 36
Traffic, engineering, signs and traffic count	147,969 02
Paint manufacture . . . . .	26,113 77
Newburyport bridge, Salisbury-Newbury-	
port, over Merrimack River, maintenance	
and operation . . . . .	4,775 76
Brightman St. Bridge, Fall River-Somerset	
maintenance and operation . . . . .	15,243 90
New Bedford-Fairhaven Bridge-Acushnet	
River, (Chapter 426, Acts of 1930) . . . . .	10,065 56
Tercentenary signs on highways (Ch. 10	
Res. 1930) . . . . .	14,364 04
Route and detour maps . . . . .	3,930 95
Rent for offices at Commonwealth Pier 5	9,750 00
Rent for offices at D Street . . . . .	15,000 00
Additional office at Commonwealth Pier 5 . . . . .	14,739 67

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\$2,286,401 44*Construction and Repair of Town and County Ways*

(Section 34, Chapter 90, General Laws) States'

expenditures for work contracted for in cities

and towns . . . . .

Engineering and expense (supervision) . . . . . \$1,987,419 05

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479,430 07

\$2,466,849 12

*Aiding Towns in the Repair and Improvement of Public Ways*

(Section 26, Chapter 81, G. L., as amended)

States' expenditures for work contracted for

in cities and towns . . . . .

Engineering and expense (supervision) . . . . . \$816,135 78

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74,822 93

\$890,958 71

*Highways in Five Western Counties:*

(Chapter 221, Acts of 1915) and

(Chapter 572, Acts of 1920) . . . . .

37 77

*Incidentals* (printing, postage, supplies, etc.) . . . . .

9,981 57

*Advertising Signs*, regulation of, personal services

and expenses . . . . .

14,605 31

*Southern Traffic Route Const.* (Chapter 330 and

344 Acts of 1925 and Section 4, Chapter 369

and 398, Acts of 1926)

Engineering and awards . . . . .

27,487 65

*Southern Artery Betterment Assessments, Refunds*

(Chapter 382, Acts of 1929) . . . . .

1,333 19

*Traffic Artery* in City of Cambridge (Connect-



ing Alewife Brook Parkway and Fresh Pond Parkway (Chapter 366, Acts of 1928) . . .	\$176,829 59
<i>Public Highway</i> , shore of Dorchester Bay, Quincy (Chapter 259, Acts of 1928) . . .	6,633 78
<i>Highways in Malden, Braintree, Weymouth and Hingham, Braintree and Weymouth</i> . . .	\$261,252 01
Malden . . . . .	62,808 08
	<hr/>
<i>Bridges over location of Southern New England Railroad, repairs</i> (Chapter 308, Acts of 1930) . . .	\$324,060 09
<i>Removal of Bridges</i> , Palmer, Ludlow and Belchertown (Chapter 388, Acts of 1930) . . .	22,820 45
<i>Highways in Metropolitan District</i> (Chapter 420, Acts of 1930)	9,929 56
Section 1. — Canton — Dedham — Wellesley, etc. . . . .	\$11,524 80
Section 2. — Canterbury Street, Boston . . .	5,565 93
Section 3. — Land taking—Neponset River—Milton . . . . .	4,677 61
Section 4. — West Roxbury—Brookline Parkway . . . . .	2,056 99
Section 5. — Broadway—Revere Beach Parkway—Grade separation, Everett . . . . .	1,269 55
	<hr/>
	\$25,094 88
<i>Suppression of gypsy and brown tail moths</i> on State highways in cities and towns . . .	12,644 08
<i>Claim of D. O'Connell</i> . . . . .	355 15
	<hr/>
<i>Total Expenditures for Highways</i> . . . . .	\$14,851,645 00

## EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles . . . . .	\$1,511,043 20
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## SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses . . . . .	\$53,151 60
<i>Boston Harbor:</i>	
Maintenance and operation, Commonwealth Pier 1, East Boston . . .	8,013 70
Maintenance and operation, Commonwealth Pier 5, South Boston . . .	107,852 41
Maintenance of property . . . . .	95,985 98
Dredging and filling . . . . .	196,674 32
Streets, piers and railroads . . . . .	36,814 73
Dredging Savin Hill Bay . . . . .	77,322 31
Boston Harbor investigation . . . . .	29,613 18
Moving hangars at airport, East Boston . . . . .	5,811 72
<i>Outside of Boston Harbor:</i>	
Improvement of rivers and harbors . . . . .	267,066 90
Fort Point Channel investigation . . . . .	—
Repairing damages to shore . . . . .	62,309 53
Maintenance, New Bedford State Pier . . . . .	2,474 46
Expenses of province lands . . . . .	5,000 00
Expenses of Plymouth property . . . . .	4,609 23
Topographical survey . . . . .	914 36
Stream gauging . . . . .	3,865 48
Surveying town boundaries . . . . .	2,595 67
Compensation for services of dumping inspectors . . . . .	804 50
Chapter 300, 1930—Dike Province Lands . . . . .	14,280 82
	<hr/>
Total . . . . .	\$975,160 90



## SUMMARY OF EXPENDITURES BY DEPARTMENT FOR YEAR ENDING NOV. 30, 1930

Administrative . . . . .	\$30,937 82
Relating to Highways . . . . .	14,851,645 00
Registry of Motor Vehicles . . . . .	1,511,043 20
Relating to Waterways . . . . .	975,160 90
Total . . . . .	\$17,368,786 92

## COOPERATIVE WORK—SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended by section 1, chapter 120, Acts of 1921 (inserting a new section 26-A), and as amended in section 26 by chapter 281, Acts of 1922, chapter 315, Acts of 1926, and chapter 171, Acts of 1930, and under section 34, chapter 90, General Laws, as amended by section 1, chapter 112, Acts of 1921, chapter 288, Acts of 1925, chapter 316, Acts of 1928, and by chapter 343, Acts of 1929, of approximately \$3,639,703.60 for cooperative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

## RELATING TO HIGHWAYS

## GENERAL STATEMENT

*State Highways.*—During the year ending Nov. 30, 1930, the Department has laid out new State highways amounting to 55.064 miles of highways in 29 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1921, 13.985 miles of State highways were discontinued or abandoned. The total length of State highways at the end of the year was 1,668.836 miles. Work was completed on about 40.996 miles of State highway, portions of which were laid out in 1929.

*Highways Constructed in 1930.*—Construction has been completed on 40.996 miles of State highway, 208.066 miles of highways under the provisions of section 34 of chapter 90 of the General Laws, as amended, and 8.252 miles of highways under the provisions of special acts, making a total of 257.314 miles completed during the year.

Of the above roads completed this year 23.278 miles were of gravel; 24.845 miles were of bituminous concrete; 117.868 miles were of bituminous macadam; 8.387 miles were of reinforced concrete; 62.009 miles were of gravel with a bituminous treatment, 6.803 miles were of dual type (reinforced concrete and bituminous macadam); 0.597 miles were of waterbound macadam with a bituminous treatment; 13.527 miles were of bituminous concrete (re-tread method).

*Resurfacing, Reconstruction and Widening of State Highways.*—During the year 13.294 miles of State highway were widened but not resurfaced and 77.964 miles were resurfaced or reconstructed and widened. These figures are for completed work. There is uncompleted work in various stages on a number of miles of road where the work will be completed next year.

Of the roads resurfaced or reconstructed this year, 47.565 miles were of bituminous macadam, 10.418 miles were of bituminous concrete, 12.173 miles were of reinforced concrete, and 7.808 miles were of dual type (reinforced concrete and bituminous macadam).

*Surveys, Plans and Estimates.*—During the year preliminary surveys, plans and estimates were made as follows:

*For State Highway Construction.*—Preliminary surveys in 57 towns, 111.453 miles; plans in 45 towns, 117.659 miles; preliminary estimates in 28 towns, 61.004 miles; lines and grades in 30 towns, 69.034 miles and final surveys 11 towns, 12.868 miles.

*For State Highway Reconstruction and Resurfacing.*—Preliminary surveys in 58 towns, 103.420 miles; plans in 55 towns, 101.616 miles; preliminary estimates



in 38 towns, 113.161 miles; lines and grades in 45 towns, 162.210 miles; final surveys in 40 towns, 83.838 miles.

*Under section 34, Chapter 90, General Laws, as amended.* — Preliminary surveys in 154 towns, 232.305 miles; plans in 153 towns, 232.377 miles; preliminary estimates in 144 towns, 148.130 miles; lines and grades in 189 towns, 210.421 miles; final survey in 57 towns, 115.610 miles. Preliminary survey, plans, estimates and lines and grades in 2 towns, 4.598 miles by a private engineer under State supervision.

Under the provisions of various Resolves, surveys were made as follows: —

Chapter 366, Resolves of 1928, — final survey in 1 city, 1.723 miles.

Chapter 364, Resolves of 1929, section 1, — final survey in 1 city, 1.529 miles.

Chapter 364, Resolves of 1929, section 4, — final survey in 3 towns, 6.061 miles.

Chapter 48, Resolves of 1930, section 5, — reconnaissance survey and plans in 2 towns, 4.497 miles.

Chapter 420, Acts of 1930: —

Section 1; — Preliminary survey and plans in 3 towns, 3.156 miles.

Section 2; — Preliminary survey and plans in 1 city, 6.865 miles.

Section 3; — Preliminary survey and plans in 1 city, and 1 town, 1.824 miles.

Section 4; — Preliminary survey and plans in 1 city, and 1 town, 3.826 miles.

Section 5; — Preliminary survey and plans in 1 city, 0.833 miles.

*For Roads to be Constructed by Towns.* — Preliminary surveys in 4 towns, 1.023 miles; preliminary plans in 2 towns, 0.688 miles; preliminary estimates in 2 towns, 0.577 miles; lines and grades in 2 towns, 0.577 miles; final survey in 1 town, 0.922 miles.

*State Highway Reconnaissance.* — Surveys in 70 towns, 175.947 miles.

*Chapter 90 Reconnaissance.* — Surveys in 5 towns, 6.577 miles. Precise levels in 141 towns, 716 miles.

*Plans to accompany decrees for street railway locations on State highways have been made in 4 towns.*

*Permits.* — There were 2,320 permits issued during the year for opening or occupying State highways for various purposes.

*Engineering Advice to Municipal Authorities.* — The Department furnished without charge engineering advice to 27 cities and towns in accordance with the provisions of section 1, chapter 81 of the General Laws.

*Approval of Specifications.* — The Department approved during the year, under the provisions of section 7, chapter 44 of the General Laws, as amended, specifications for the construction of roads in 46 towns and cities.

*Approval of Bridge Plans.* — The Department approved during the year, under the provisions of chapter 313 of the Acts of 1923, plans for the construction of bridges in 10 towns and cities.

## PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; hearings on petitions for the amendment or revision of permits for the operation of bus lines in 40 cases; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 52 cases; on the matter of outdoor advertising in 14 cases; on the matter of special regulations for motor vehicles in Somerville, Peabody and Boston; on petitions for the relocation of street railway tracks in Andover, Shrewsbury and Westborough; on a petition protesting against the changing of the names of two parks in the city of Fall River; on the disposal of certain used motor vehicles and the licensing of motor vehicle junk yards; on a regulation concerning motor vehicles equipped with radio receiving sets; and on a petition requesting the adoption of rules and regulations governing the use of Round Hills Airport in the town of Dartmouth.

Petitions were received and contracts signed during the year as follows: —



	Petitions	Contracts
State highways . . . . .	40	76
Work under section 34, chapter 90, General Laws, as amended	141	409
Work under section 26, chapter 81, General Laws, as amended	171	170
Work under Special Act . . . . .		1
	<hr/> 352	<hr/> 656

STATE HIGHWAYS

PETITIONS FOR STATE HIGHWAYS

General Laws, chapter 81, section 4, provides that —  
“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows: —

SELECTMEN OF DALTON. — Road extending from a point on North Street about 7,450 feet distant westerly from the dividing line between the towns of Dalton and Windsor to the junction of North and Main Streets. Received Feb. 8, 1930.

SELECTMEN OF SANDWICH. — Road extending from the dividing line between the towns of Bourne and Sandwich, over a new location, to a point near the fish hatchery of the State Department of Conservation. Received Feb. 6, 1930.

MAYOR AND BOARD OF ALDERMEN OF WOBURN. — Road locally known as Salem Street, extending from the junction of Cedar and Salem Streets to the dividing line between the city of Woburn and the town of Stoneham. Received Feb. 28, 1930.

SELECTMEN OF PEMBROKE. — Road extending from a point on North Street near Schooset Street to the dividing line between the towns of Pembroke and Hanover. Received Mar. 4, 1930.

SELECTMEN OF HANOVER. — Road extending from a point on Washington Street near the property of Otis Miller south-easterly, over a new location, to a point on Washington Street near Pond Street (distance about 2,500 feet). Also road extending from a point on Washington Street near Hanover Street south-easterly, over a new location, to the dividing line between the towns of Hanover and Pembroke (distance about 6,100 feet). Received Mar. 4, 1930.

SELECTMEN OF NORTH ANDOVER. — Road extending from a point on the Salem Turnpike about 2,500 feet southerly from Wilson’s Corner southerly to the dividing line between the towns of North Andover and Andover. Received Mar. 11, 1930.

SELECTMEN OF ANDOVER. — Road extending from a point on Main Street near the North Reading town line northerly to the dividing line between the towns of Andover and North Andover. Received Mar. 11, 1930.

SELECTMEN OF MIDDLEBOROUGH. — Road locally known as Bedford Street, extending from the dividing line between the towns of Bridgewater and Middleborough to the dividing line between the towns of Middleborough and Lakeville. Also road extending from Bedford Street to Wareham Street over a new location and Grove Street. Received Mar. 20, 1930.

SELECTMEN OF BRIDGEWATER. — Road locally known as Bedford Street, extending from Bridgewater Square to the dividing line between the towns of Bridgewater and Middleborough. Received Mar. 19, 1930.

SELECTMEN OF HANOVER. — Road extending from the junction of Washington and Mill Streets, over a new location, to a point about 1,500 feet northerly from said junction, near the property now or formerly of Addie T. Howard. Received Mar. 25, 1930.

SELECTMEN OF SUTTON. — Road locally known as the Old Hartford Turnpike, extending from the dividing line between the towns of Oxford and Sutton to



the dividing line between the towns of Sutton and Northbridge. Received April 1, 1930.

SELECTMEN OF STONEHAM. — Road locally known as North Street, extending from the dividing line between the town of Stoneham and city of Woburn to the dividing line between the towns of Stoneham and Wakefield. Received April 8, 1930.

SELECTMEN OF LAKEVILLE. — Road locally known as Taunton Street, extending from the dividing line between the city of Taunton and the town of Lakeville to the dividing line between the towns of Lakeville and Middleborough. Received April 14, 1930.

SELECTMEN OF LEE. — Road extending from a point on the Stockbridge Road in the village of East Lee, near the property now or formerly of James Bianchi, to a point in said village on the Becket Road, near the property now or formerly of Clark Aiken. Received May 5, 1930.

SELECTMEN OF WILMINGTON. — Road locally known as Lowell Street, extending from the dividing line between the towns of Reading and Wilmington to a point about one and one-half miles distant northwesterly from said dividing line. Received May 19, 1930.

SELECTMEN OF SHREWSBURY. — Road locally known as the Worcester Turnpike, extending from the junction of said Turnpike and Maple Avenue to the dividing line between the towns of Shrewsbury and Northborough. Received May 24, 1930.

SELECTMEN OF NORTHBOROUGH. — Road locally known as the Worcester Turnpike, extending from the dividing line between the towns of Shrewsbury and Northborough to the dividing line between the towns of Northborough and Westborough. Received May 24, 1930.

SELECTMEN OF WESTBOROUGH. — Road locally known as the Worcester Turnpike, extending from the dividing line between the towns of Northborough and Westborough to the dividing line between the towns of Westborough and Southborough. Received May 24, 1930.

SELECTMEN OF SOUTHBOROUGH. — Road locally known as the Worcester Turnpike, extending from the dividing line between the towns of Westborough and Southborough to White's Corner. Received May 24, 1930.

SELECTMEN OF MILTON. — Road locally known as Randolph Avenue, extending from the dividing line between the city of Quincy and the town of Milton to Highland Street. Received June 23, 1930.

SELECTMEN OF NORTH ATTLEBOROUGH. — Road extending from a point on Washington Street near Hoppin Hill Avenue, over a new location in whole or in part, to a point on Washington Street near Park Street. Received June 26, 1930.

SELECTMEN OF AVON. — Road extending from a point on East Main Street at or near East Street, over a new location, to the dividing line between the town of Avon and the city of Brockton at North Montello Street Extension. Received July 29, 1930.

SELECTMEN OF ABINGTON. — Road locally known as Brockton Avenue, extending from the westerly side of Bedford Street to a point near Elm Street. Received Aug. 7, 1930.

BRISTOL COUNTY COMMISSIONERS. — Road in Attleboro, extending from the dividing line between the State of Rhode Island and the Commonwealth of Massachusetts at Newport Avenue along Newport Avenue to Highland Avenue and thence along Washington Street to a point near Vernal Street. Received Aug. 16, 1930.

MAYOR AND ALDERMEN OF BROCKTON. — Road locally known as North Montello Street, extending from the dividing line between the town of Avon and the city of Brockton to the junction of North Montello and Albion Streets. Received Aug. 13, 1930.

MIDDLESEX COUNTY COMMISSIONERS. — Road extending from the terminus of the State highway on the easterly side of the Merrimack River in Tyngsborough westerly across the Merrimack River and the Boston and Maine Railroad, by a new location for the bridge, to a point near the junction of the State



highway on the westerly side of the river with the road leading from Tyngsborough to Dunstable. Received Sept. 23, 1930.

SELECTMEN OF UPTON. — Road locally known as the Boston-Hartford Turnpike, extending from the dividing line between the towns of Northbridge and Upton to the dividing line between the towns of Upton and Hopkinton. Received Sept. 11, 1930.

NORFOLK COUNTY COMMISSIONERS. — Road extending from the dividing line between the towns of Hingham and Cohasset to the dividing line between the towns of Scituate and Cohasset, in the town of Cohasset. Received April 24, 1930.

SELECTMEN OF TEMPLETON. — Road locally known as Main Street, extending from the G. A. R. Hall in East Templeton Village westerly to a point near the property now or formerly of P. W. Angel in Templeton Village. Received Oct. 8, 1930.

SELECTMEN OF ORANGE. — Road locally known as the Old Athol Road, extending from the Athol Road to the dividing line between the towns of Orange and Athol. Received Nov. 10, 1930.

SELECTMEN OF ATHOL. — Road locally known as the Old Orange Road, extending from South Main Street to the dividing line between the towns of Athol and Orange. Received Nov. 8, 1930.

SELECTMEN OF ASHFIELD. — Road locally known as the Conway Road and Main Street, extending from the dividing line between the towns of Ashfield and Conway to the Buckland Road. Received Nov. 7, 1930.

SELECTMEN OF CHESTER. — Road extending from a point on the Huntington Road at or near the property of George B. Tracy, over a new location south of the Boston & Albany Railroad to the dividing line between the towns of Chester and Huntington. Received Nov. 13, 1930.

SELECTMEN OF HUNTINGTON. — Road extending from a point on the Chester Road just south of the Boston and Albany Railroad grade crossing to the dividing line between the towns of Huntington and Chester, over a new location. Received Nov. 14, 1930.

SELECTMEN OF HOPEDALE. — Road locally known as South Main Street, extending from the dividing line between the towns of Milford and Hopedale to the dividing line between the towns of Hopedale and Mendon. Received Nov. 15, 1930.

SELECTMEN OF MENDON. — Road extending from a point on the Milford-Bellingham Road near the property of Eustachio Pettinelli, over a new location, to the dividing line between the towns of Mendon and Bellingham. Received Nov. 15, 1930.

SELECTMEN OF MILFORD. — Road locally known as Prospect, Elm, Courtland and South Main Streets, extending from West Street at its junction with Prospect Street to the dividing line between the towns of Milford and Hopedale. Received Nov. 15, 1930.

SELECTMEN OF BOURNE. — Road extending from a point on the Plymouth Road near the Swift Memorial Methodist Church, over a new location, to the government line on the north end of the Sagamore Bridge over the Cape Cod Canal. Received Nov. 20, 1930.

SELECTMEN OF BARNSTABLE. — Road extending from a point on the Falmouth Road in Marstons Mills near the property of the Estate of William Weeks, over a new location, to a point on Pine Street near the property of J. Leo Murphy. Received Nov. 22, 1930.

SELECTMEN OF WESTON. — Road extending from a point on the Boston Post Road near Highland Street, over a new location, to a point on said Boston Post Road near Wellesley Street. Received Nov. 28, 1930.

#### CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS

##### (Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities: —



*Natick*

Dec. 10, 1929, contract made with Sherry Construction Company, Inc., of Fall River, for reconstructing about 10,925 feet of State highway on West Central Street, the surface consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$106,299.40. Work completed July 2, 1930. Expenditure during 1930, \$118,332.00.

*Natick-Wellesley*

Dec. 10, 1929, contract made with B. Perini & Sons, Inc., of Ashland, for reconstructing about 5,995 feet of State highway on East Central Street in Natick, and about 6,209 feet of State Highway on Central Street in Wellesley, the surface consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$132,626.80. Work completed Aug. 15, 1930. Expenditure during 1930, \$150,619.16.

*Barre*

Dec. 17, 1929, contract made with Frank & Frank Construction Co., of Providence, R. I., for reconstructing about 8,953 feet of State highway on the Oakham-Petersham Road, the surface consisting of bituminous macadam. The proposal amounted to \$53,099.35. Work completed Aug. 9, 1930. Expenditure during 1930, \$51,355.30.

*Gardner-Templeton*

Dec. 24, 1929, contract made with the Fitchburg Concrete Construction Company, for reconstructing about 12,427 feet of State highway on the Templeton Road in Gardner, and about 10,533 feet of State highway on the same road in Templeton, the surface consisting of bituminous macadam. The proposal amounted to \$153,595.75. Work completed Sept. 22, 1930. Expenditure during 1930, \$152,863.41.

*Marion*

Dec. 24, 1929, contract made with Joseph McCormick, of East Providence, R. I., for reconstructing about 24,067 feet of State highway on the Wareham Road, the surface consisting of bituminous macadam. The proposal amounted to \$168,919.50. Work completed July 29, 1930. Expenditure during 1930, \$174,052.68.

*Hingham-Weymouth*

Dec. 24, 1929, contract made with Frank Lanza & Sons, of Boston, for reconstructing about 824 feet of State highway on Whiting Street in Hingham, and about 11,040 feet of State highway on Washington Street in Weymouth, the surface consisting of bituminous macadam. The proposal amounted to \$96,429.90. Work completed July 26, 1930. Expenditure during 1930, \$88,023.24.

*Reading-Stoneham*

Dec. 31, 1929, contract made with Angelo Susi & Company of Boston, for reconstructing about 6,625 feet of State highway on Main Street in Reading, and about 5,362 feet of State highway on the same road in Stoneham, the surface consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$140,264.50. Work completed Aug. 28, 1930. Expenditure during 1930, \$176,805.85.

*Erving*

Dec. 31, 1929, contract made with the Kelleher Corporation, of Montague, for reconstructing about 16,973 feet of State highway on the Millers Falls Road, the surface consisting of bituminous macadam. The proposal amounted to \$152,315.60. Work completed Aug. 30, 1930. Expenditure during 1930, \$161,715.84.

*Ipswich-Rowley-Newbury-Newburyport*

Jan. 7, 1930, contract made with Patrick J. Holland, of Lawrence, for resurfacing and widening the Newburyport Turnpike, about 3,438 feet in Ipswich, about 18,677 feet in Rowley, about 20,783 feet in Newbury, and about 1,971 feet in



Newburyport, the surface consisting of reinforced cement concrete for 38,715 feet and of bituminous macadam for 6,153 feet. The proposal amounted to \$344,802.05. Work completed Oct. 24, 1930. Expenditure during 1930, \$354,370.51.

*Orange*

Jan. 14, 1930, contract made with the Kelleher Corporation, of Montague, for reconstructing about 13,770 feet of State highway on the Erving Road, the surface consisting of bituminous macadam. The proposal amounted to \$119,429.85. Work completed Sept. 8, 1930. Expenditure during 1930, \$126,038.33.

*Abington*

Mar. 11, 1930, contract made with Powers Brothers, of Brockton, for constructing about 5,672 feet of State highway on Bedford and Washington Streets, the surface consisting of bituminous macadam. The proposal amounted to \$59,843.75. Work completed July 19, 1930. Expenditure during 1930, \$59,246.91.

*Bourne-Sandwich*

Mar. 11, 1930, contract made with Sidney W. Lawrence, of Falmouth, for constructing about 26,720 feet of State highway on the County Road in Bourne, and about 12,484 feet of State highway on the same road in Sandwich, the surface consisting of bituminous concrete. The proposal amounted to \$289,492.00. Work about seven-eighths completed. Expenditure during 1930, \$244,055.06.

*Florida-Savoy-Charlemont*

Mar. 12, 1930, contract made with D'Onfro Brothers, Inc., of Leominster, for making surface repairs, smoothing slopes, etc., on the Mohawk Trail in Florida, Savoy and Charlemont. The proposal amounted to \$500.00. Work completed June 27, 1930. Expenditure during 1930, \$486.25.

*Canton*

Mar. 25, 1930, contract made with Reynolds Brothers, Inc., of Canton, for resurfacing and widening about 1,200 feet of State highway on Turnpike and Washington Streets, the surface consisting of bituminous macadam. The proposal amounted to \$6,508.75. Work completed July 3, 1930. Expenditure during 1930, \$11,546.23.

*Quincy*

Mar. 25, 1930, contract made with Ezekiel C. Sargent, of Quincy, for reconstructing about 2,745 feet of State highway on Washington Street, the surface consisting of bituminous macadam and waterbound macadam. The proposal amounted to \$19,939.50. Work completed May 29, 1930. Expenditure during 1930, \$19,151.10.

*Williamstown*

Mar. 25, 1930, contract made with D. S. McGrath, Inc., of Adams, for constructing a bridge and approaches on about 1,600 feet of State highway on the River Road, the surface consisting of bituminous macadam. The proposal amounted to \$26,767.70. Work completed July 31, 1930. Expenditure during 1930, \$27,237.90.

*Hanover-Pembroke*

Mar. 25, 1930, contract made with Arute Brothers, Inc., of New Britain, Conn., for constructing and reconstructing about 22,847 feet of State highway on Washington Street and new location in Hanover, and about 1,931 feet of State highway on new location and North Street in Pembroke, the surface consisting of bituminous macadam. The proposal amounted to \$264,291.80. Work completed Sept. 23, 1930. Expenditure during 1930, \$259,860.26.

*Littleton*

Mar. 25, 1930, contract made with DiGregorio Brothers & Company, of Worcester, for reconstructing about 4,100 feet of State highway on the Ayer Road, the surface consisting of bituminous macadam. The proposal amounted to \$16,555.20. Work completed June 24, 1930. Expenditure during 1930, \$15,017.91.



*Brewster-Orleans*

April 8, 1930, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 41,042 feet of State highway on the North County Road in Brewster, and about 453 feet of State highway on the same road in Orleans, the surface consisting of bituminous concrete. The proposal amounted to \$206,220.80. Work about seven-eighths completed. Expenditure during 1930, \$181,646.99.

*Taunton-Dighton-Rehoboth*

April 8, 1930, contract made with the Sherry Construction Company, Inc., of Fall River, for reconstructing about 30,168 feet of State highway on the Providence Turnpike, 10,234 feet being in Taunton, 8,225 feet in Dighton, and 11,709 feet in Rehoboth, the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$265,955.15. Work practically completed. Expenditure during 1930, \$264,548.38.

*Williamstown*

April 8, 1930, contract made with the Kelleher Corporation, of Montague, for constructing about 23,088 feet of State highway on the Petersburg Mountain and Cold Spring Roads, the surface consisting of bituminous macadam. The proposal amounted to \$105,975.00. Work completed Aug. 5, 1930. Expenditure during 1930, \$95,426.18.

*Billerica*

April 8, 1930, contract made with Antonio Pallotto, of Dracut, for reconstructing about 10,025 feet of State highway on the Boston-Lowell Road, the surface consisting of bituminous macadam. The proposal amounted to \$81,455.10. Work completed Sept. 6, 1930. Expenditures during 1930, \$83,436.45.

*West Springfield*

April 15, 1930, contract made with Daniel O'Connell's Sons, of Holyoke, for reconstructing about 8,182 feet of State highway on Westfield Street, the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$120,219.05. Work completed Aug. 1, 1930. Expenditure during 1930, \$126,029.28.

*Dalton*

April 15, 1930, contract made with D. S. McGrath, Inc., of Adams, for constructing about 7,263 feet of State highway on North Street, the surface consisting of bituminous macadam. The proposal amounted to \$79,896.25. Work completed Oct. 8, 1930. Expenditure during 1930, \$68,392.70.

*Sandisfield*

April 15, 1930, contract made with P. J. Kennedy & Company, Inc., of Holyoke, for constructing a steel bridge and the approaches thereto on the State highway known as the New Boston Road, the surface over the bridge consisting of bituminous concrete, the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$33,606.00. Work completed Nov. 25, 1930. Expenditure during 1930, \$30,330.03.

*Middleborough-Bridgewater*

April 29, 1930, contract made with Powers Brothers, of Brockton, for constructing about 19,183 feet of State highway on Bedford Street in Bridgewater, and about 12,600 feet of State highway on Bedford Street and new location in Middleborough, the surface consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$429,525.80. Work completed Nov. 24, 1930. Expenditure during 1930, \$410,431.26.

*Middleborough*

May 6, 1930, contract made with Frank Lanza & Sons, of Boston, for constructing and reconstructing about 31,397 feet of State highway on new location, Grove



Street and Wareham Street, the surface consisting of bituminous macadam. The proposal amounted to \$258,540.40. Work practically completed. Expenditure during 1930, \$275,774.89.

*Lee*

May 20, 1930, contract made with David W. Dwyer, of Dalton, for constructing and reconstructing 1,412 feet of State highway to form northerly and easterly approaches to the Becket-Pittsfield Road, the surface consisting of bituminous macadam. The proposal amounted to \$13,263.35. Work completed Sept. 30, 1930. Expenditure during 1930, \$13,427.71.

*Provincetown*

May 20, 1930, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for resurfacing about 13,640 feet of State highway on the Race Point Road, the surface consisting of bituminous concrete. The proposal amounted to \$39,121.00. Work completed Aug. 8, 1930. Expenditure during 1930, \$40,715.78.

*Southborough*

June 24, 1930, contract made with F. Pritchard & Son, Inc., of Watertown, for relocating barn and silo of the National Dairy Company on the State highway known as the Worcester Turnpike. The proposal amounted to \$4,390.00. Work completed Sept. 16, 1930. Expenditure during 1930, \$4,390.00.

*Westborough-Southborough*

July 8, 1930, contract made with B. Perini & Sons, Inc., of Ashland, for constructing about 23,860 feet of State highway on the Worcester Turnpike, 12,560 feet being in Westborough and 11,300 feet in Southborough, the surface consisting of two sections of reinforced cement concrete separated by a loamed space with bituminous macadam and gravel shoulders on the outer edges of the concrete. The proposal amounted to \$779,213.60. Work about one-fourth completed. Expenditure during 1930, \$262,879.64.

*Shrewsbury*

July 8, 1930, contract made with the Lane Construction Corporation, of Meriden, Connecticut, for constructing and reconstructing about 11,715 feet of State highway on the Worcester Turnpike, the surface consisting of reinforced cement concrete with bituminous concrete between street railway rails for about 2,500 feet, of reinforced cement concrete for about 2,003 feet, and for about 7,212 feet of two sections of reinforced cement concrete separated by a loamed space, with bituminous macadam and gravel shoulders on the outer edges of the concrete. The proposal amounted to \$426,855.70. Work about one-fourth completed. Expenditure during 1930, \$133,654.28.

*Shrewsbury-Northborough-Westborough*

July 15, 1930, contract made with Carlo Bianchi & Company, Inc., of Framingham, for constructing about 28,446 feet of State highway on the Worcester Turnpike, 10,718 feet being in Shrewsbury, 3,978 feet in Northborough and 13,750 feet in Westborough, the surface for about 8,500 feet consisting of two sections of reinforced cement concrete separated by a loamed space with bituminous macadam and gravel shoulders on the outer edges of the concrete, the surface on the balance of the roadway consisting of two sections of reinforced cement concrete separated by the double track street railway reservation. The proposal amounted to \$1,005,044.00. Work about one-fifth completed. Expenditure during 1930, \$263,115.80.

*Westborough-Shrewsbury*

July 15, 1930, contract made with The John Cavanagh & Son Building Moving Company, of Boston, for moving buildings on the State highway known as the Worcester Turnpike in Westborough and Shrewsbury, and doing work incidental thereto. The proposal amounted to \$9,984.00. Work completed Oct. 8, 1930. Expenditure during 1930, \$9,984.00.



*Shrewsbury-Westborough*

July 15, 1930, contract made with John Moran, Inc., of Fitchburg, for moving buildings on the State highway known as the Worcester Turnpike in Shrewsbury and Westborough, and doing work incidental thereto. The proposal amounted to \$17,400.00. Work completed Aug. 26, 1930. Expenditure during 1930, \$17,400.00.

*Attleboro-North Attleborough*

July 15, 1930, contract made with J. J. McHale & Sons, Inc., of Pawtucket, R. I., for widening about 4,397 feet of State highway on Washington Street in Attleboro and about 13,638 feet of State highway on the same road in North Attleborough, the surface consisting of reinforced cement concrete. The proposal amounted to \$154,507.10. Work completed Nov. 26, 1930. Expenditure during 1930, \$146,200.19.

*Dudley-Southbridge*

July 22, 1930, contract made with the Waterbury Road Construction Co., Inc., of Hartford, Conn., for constructing about 13,452 feet of State highway on the Southbridge Road in Dudley, and about 7,431 feet of State highway on the Dudley Road in Southbridge, the surface consisting of bituminous macadam. The proposal amounted to \$213,576.00. Work about three-fourths completed. Expenditure during 1930, \$155,885.24.

*Randolph-Quincy-Milton*

July 22, 1930, contract made with D. M. Biggs & Company, of Boston, for reconstructing about 10,245 feet of State highway on North Main Street in Randolph, and about 6,510 feet of State highway on Randolph Avenue in Quincy, and for constructing about 6,650 feet of State highway on Randolph Avenue in Milton, the surface consisting of bituminous macadam between two sections of reinforced cement concrete with bituminous macadam approaches and shoulders. The proposal amounted to \$253,283.90. Work nearly completed. Expenditure during 1930, \$214,272.77

*Becket-Lee*

July 22, 1930, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 26,162 feet of State highway on Jacob's Ladder in Becket, and about 11,916 feet of State highway on the same road in Lee, the surface consisting of bituminous macadam. The proposal amounted to \$282,590.00. Work about half completed. Expenditure during 1930, \$137,839.42.

*Revere-Saugus*

July 29, 1930, contract made with M. McDonough Co., of Saugus, for resurfacing about 3,193 feet of State highway on Broadway in Revere and about 4,038 feet of State highway on the same road in Saugus, the surface consisting of bituminous macadam. The proposal amounted to \$14,450.50. Work completed Sept. 20, 1930. Expenditure during 1930, \$17,351.75.

*Northborough*

Aug. 5, 1930, contract made with Burton H. Wiggin Company, of Boston, for relocating buildings on the land of F. E. Lawrence on the State highway in Northborough, known as the Worcester Turnpike. The proposal amounted to \$434.00. Work completed Aug. 23, 1930. Expenditure during 1930, \$434.00.

*Shrewsbury*

Aug. 5, 1930, contract made with F. Pritchard & Son, Inc., of Watertown, for relocating buildings on the land of Fred S. Holden on the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$4,250.00. Work completed Oct. 10, 1930. Expenditure during 1930, \$4,250.00.

*Westborough*

Aug. 5, 1930, contract made with The John Cavanagh and Son Building Moving Co., of Boston, for relocating a building on the land of Lewis W. Wynott on the



State highway in Westborough, known as the Worcester Turnpike. The proposal amounted to \$1,039.00. Work completed Sept. 13, 1930. Expenditure during 1930, \$1,039.00.

*North Attleborough*

Aug. 5, 1930, contract made with B. Perini & Son, Inc., of Ashland, for constructing about 11,450 feet of State highway on Washington Street, new location and Jefferson Street in North Attleborough, the surface consisting of reinforced cement concrete and bituminous macadam. The proposal amounted to \$269,800.00. Work practically completed. Expenditure during 1930, \$222,503.15.

*Shrewsbury*

Aug. 5, 1930, contract made with John Moran, Inc., of Fitchburg, for relocating buildings on the land of William O. and Alice M. Spooner on the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$3,250.00. Work completed Sept. 15, 1930. Expenditure during 1930, \$3,250.00.

*Avon-Brockton*

Sept. 2, 1930, contract made with Powers Brothers, of Brockton, for constructing and reconstructing about 5,544 feet of State highway on East Main Street in Avon and about 6,119 feet of State highway on North Montello Street extension in Brockton, the surface consisting of bituminous macadam between two strips of reinforced cement concrete. The proposal amounted to \$147,733.95. Work about one-half completed. Expenditure during 1930, \$65,091.29.

*Avon*

Sept. 9, 1930, contract made with James J. Gordon, of Hingham, for moving a building on the State highway in Avon, known as East Main Street. The proposal amounted to \$1,625.00. Work completed Oct. 11, 1930. Expenditure during 1930, \$1,875.00.

*Avon*

Sept. 9, 1930, contract made with C. O. Harden & Son, of Brockton, for moving buildings and doing all incidental work in connection therewith on the State highway in Avon, known as East Main Street. The proposal amounted to \$5,887.00. Work about completed. Expenditure during 1930, \$4,675.00.

*Shrewsbury*

Sept. 16, 1930, contract made with The John Cavanagh & Son Building Moving Co., of Boston, for moving buildings and doing all incidental work in connection therewith on the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$8,650.00. Work about completed. Expenditure during 1930, \$7,210.55.

*North Attleborough-Attleboro*

Sept. 16, 1930, contract made with Joseph J. England, of New Bedford, for moving buildings and doing all incidental work in connection therewith on the State highway in North Attleborough and Attleboro, known as Washington Street. The proposal amounted to \$4,935.00. Work practically completed. Expenditure during 1930, \$3,910.00.

*Waltham-Weston*

Sept. 23, 1930, contract made with Joseph P. McCabe, Inc., of Boston, for constructing a bridge and approaches on about 1,480 feet of State highway at the dividing line between the city of Waltham and town of Weston, the surface over the bridge consisting of bituminous concrete and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$72,109.55. Work about one-sixth completed. Expenditure during 1930, \$12,515.11.

*Shrewsbury*

Sept. 30, 1930, contract made with Burton H. Wiggin Company, of Boston, for relocating building on the land of Mrs. Mary I. Moroney on the State high-



way in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$1,671.00. Work about completed. Expenditure during 1930, \$1,406.15.

*Bridgewater-East Bridgewater*

Sept. 30, 1930, contract made with Arute Bros., Incorporated, of New Britain, Conn., for reconstructing about 5,667 feet of State highway on Broad Street in Bridgewater and about 9,096 feet of State highway on Bedford Street in East Bridgewater, the surface consisting of bituminous macadam. The proposal amounted to \$128,842.10. Work about one-sixth completed. Expenditure during 1930, \$22,909.77.

*Fairhaven-New Bedford*

Sept. 30, 1930, contract made with the National Gunite Contracting Co., of Boston, for filling joints in the stone masonry of the Fairhaven-New Bedford Bridge in Fairhaven and New Bedford. The proposal amounted to \$2,147.60. Work completed Nov. 21, 1930. Expenditure during 1930, \$1,649.93.

*Shrewsbury*

Oct. 7, 1930, contract made with Ralph H. White, of Auburn, for constructing wells on private property adjoining the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$1,000.00. Work about four-fifths completed. Expenditure during 1930, \$873.97.

*Attleboro*

Oct. 7, 1930, contract made with Jeremiah O'Leary, of Sharon, for removing and relocating a building on the land of Charles H. Fuller on the State highway in Attleboro, known as Washington Street. The proposal amounted to \$2,175.00. Work completed Nov. 12, 1930. Expenditure during 1930, \$1,785.00.

*Dedham*

Oct. 8, 1930, contract made with B. Perini & Sons, Inc., of Ashland, for reconstructing about 4,200 feet of State highway on Washington Street in Dedham, the surface consisting of reinforced cement concrete. The proposal amounted to \$54,048.60. Work practically completed. Expenditure during 1930, \$46,879.23.

*Tyngsborough*

Oct. 8, 1930, contract made with Simpson Bros. Corporation, of Boston, for constructing a steel bridge over the Merrimack River, a steel bridge over the Boston & Maine Railroad, two concrete bridges over a brook, and about 1,245 feet of roadway on the State highway in Tyngsborough, the surface of the bridge over the river consisting of an asphaltic emulsion wearing surface, the surface of the bridge over the railroad consisting of bituminous concrete, and the surface of the remainder of the road consisting of bituminous macadam. The proposal amounted to \$389,191.90. Work just begun. Expenditure during 1930, \$5,928.75.

*Randolph*

Oct. 8, 1930, contract made with Powers Brothers, of Brockton, for widening about 9,540 feet of State highway in Randolph on the road leading to Avon, the surface consisting of reinforced cement concrete. The proposal amounted to \$42,436.50. Work practically completed. Expenditure during 1930, \$35,686.45.

*Avon*

Oct. 8, 1930, contract made with James J. Gordon, of Hingham, for moving house on land of Wilfred J. Richard and store on land of David Fraser on the State highway in Avon, known as East Main Street. The proposal amounted to \$2,450.00. Work practically completed. Expenditure during 1930, \$1,955.00.

*Dedham*

Oct. 8, 1930, contract made with F. Pritchard & Son, Inc., of Watertown, for relocating barn on the Chickering Home property on the State highway in Dedham. The proposal amounted to \$2,980.00. Work practically completed. Expenditure during 1930, \$2,279.70.



*Shrewsbury*

Oct. 14, 1930, contract made with John Moran, Inc., of Fitchburg, for moving building or buildings on land of Herbert Mitchell on the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$2,549.00. Work not yet commenced.

*Windsor*

Oct. 14, 1930, contract made with Kelleher Corp., of Montague, for reconstructing about 15,959 feet of State highway on the Berkshire Trail in Windsor, the surface consisting of bituminous macadam. The proposal amounted to \$134,885.10. Work about one-ninth completed. Expenditure during 1930, \$15,694.87.

*Dedham*

Oct. 28, 1930, contract made with F. Pritchard & Son, Inc., of Watertown, for removing and relocating house and garage of Mary T. O'Leary on the State highway in Dedham. The proposal amounted to \$1,580.00. Work practically completed. Expenditure during 1930, \$1,208.70.

*Buckland*

Nov. 4, 1930, contract made with Thomas J. Harvey, of Adams, for reconstructing about 910 feet of State highway on the Ashfield Road in Buckland, the surface consisting of bituminous macadam. The proposal amounted to \$10,070.25. Work not yet commenced.

*Attleboro*

Nov. 4, 1930, contract made with Patrick J. Holland, of Lawrence, for constructing a bridge and about 9,687 feet of State highway on Newport Avenue in Attleboro, the surface of the roadway, except on approaches and over the bridge, consisting of reinforced cement concrete, the surface of the approaches consisting of bituminous macadam, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$180,173.20. Work about one-fifth completed. Expenditure during 1930, \$28,613.97.

*Charlemont*

Nov. 4, 1930, contract made with Kelleher Corporation, of Montague, for constructing about 2,324 feet of State highway on the Mohawk Trail and new location in Charlemont, the surface consisting of bituminous macadam. The proposal amounted to \$34,182.00. Work about one-sixth completed. Expenditure during 1930, \$5,204.75.

*Tyngsborough*

Nov. 12, 1930, contract made with Antonio Pallotto, of Dracut, for removing buildings of Nancy Braddon and demolishing and removing various other buildings on the State highway in Tyngsborough. The proposal amounted to \$4,000.00. Work about one-fourth completed. Expenditure during 1930, \$1,500.00.

*Wareham*

Nov. 18, 1930, contract made with Arthur K. Finney, of Plymouth, for reconstructing a bridge and approaches thereto on about 1,950 feet of State highway on Agawam Road in Wareham, the surface consisting of bituminous macadam. The proposal amounted to \$42,614.00. Work not yet commenced.

*Palmer-Monson*

Nov. 18, 1930, contract made with the Lee Construction Company, of Boston, for constructing and reconstructing a steel plate girder and steel stringer bridge over the Boston & Albany Railroad, a reinforced concrete beam bridge over the Quaboag River, about 1,911 feet of State highway on the Boston Post Road, and about 2,208 feet of State highway on the Brimfield Road in Palmer and Monson, the surface on the Boston Post Road consisting of reinforced cement concrete, and the surface on the Brimfield Road consisting of bituminous macadam. The proposal amounted to \$158,672.13. Work not yet commenced.



*Erving*

Nov. 19, 1930, a contract made with Ralph H. White, of Auburn, for constructing a well on the Mezerall property adjoining the State highway in the town of Erving. The proposal amounted to \$250.00. Work not yet commenced.

*Ashfield-Conway*

Nov. 25, 1930, contract made with Kelleher Corporation, of Montague, for constructing about 18,189 feet of State highway on the Ashfield Road in Conway and about 19,149 feet of State highway on the same road in Ashfield, the surface consisting of bituminous macadam. The proposal amounted to \$251,667.40. Work not yet commenced.

*Athol-Orange*

Nov. 25, 1930, contract made with G. Rosse & Son, of Leominster, for constructing about 2,510 feet of State highway on the Old Orange Road in Athol and about 5,648 feet of State highway on the same road in Orange, the surface consisting of bituminous macadam. The proposal amounted to \$74,608.50. Work not yet commenced.

*Shrewsbury*

Nov. 25, 1930, contract made with John Moran, Inc., of Fitchburg, for moving building or buildings on the land of Henry N. Dufresne on the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$2,071.00. Work not yet commenced.

*Shrewsbury*

Nov. 26, 1930, contract made with John Moran, Inc., of Fitchburg, for moving building or buildings of Sam Lainer on the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$2,150.00. Work not yet commenced.

*Shrewsbury*

Nov. 25, 1930, contract made with Burton H. Wiggin Company, of Boston, for moving building or buildings of Jennie L. Granger on the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$5,071.00. Work not yet commenced.

## EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various counties during the year were: —

Barnstable, \$414,355.48	Hampshire, \$14,778.18
Berkshire, \$361,095.14	Middlesex, \$25,427.56
Bristol, \$328,866.92	Norfolk, \$69,747.18
Essex, \$255,016.88	Plymouth, \$1,040,391.26
Franklin, \$6,320.64	Worcester, \$1,051,463.67
Hampden, \$73,519.07	Total, \$3,640,981.98

Details of the foregoing expenditures follow: —

*Barnstable County.* — Bourne, \$148,536.80; Falmouth, \$12,800.09; Provincetown, \$112,551.58; Sandwich, \$140,467.01.

*Berkshire County.* — Dalton, \$69,183.99; Florida, \$3,600.71; Great Barrington, \$210.33; Lanesborough, \$64,826.14; Lee, \$9,229.63; New Ashford, \$13,220.00; Pittsfield, \$3,309.32; Sandisfield, \$54,324.89; Williamstown, \$143,190.13.

*Bristol County.* — Attleborough, \$34,085.28; Mansfield, \$8,745.51; North Attleborough, \$262,504.00; Norton, \$22,654.11; Rehoboth, \$215.55; Seekonk, \$215.55; Swansea, \$446.92.

*Essex County.* — Gloucester, \$6,863.49; Newbury, \$248,153.39.

*Franklin County.* — Ashfield, \$49.38; Charlemont, \$6,197.50; Conway, \$49.38; Orange, \$24.38.

*Hampden County.* — Chester, \$68,373.03; Holland, \$611.33; Monson, \$31.73; Palmer, \$2,089.17; Tolland, \$2,413.81.



*Hampshire County.* — Easthampton, \$14,315.45; South Hadley, \$462.73.

*Middlesex County.* — Tyngsborough, \$7,174.57; Waltham, \$7,473.91; Weston, \$7,534.06; Woburn, \$3,245.02.

*Norfolk County.* — Avon, \$7,720.71; Braintree, \$31.41; Dedham, \$47.75; Milton, \$44,336.15; Wrentham, \$17,611.16.

*Plymouth County.* — Abington, \$71,574.14; Bridgewater, \$287,093.11; Brockton, \$1,340.66; Hanover, \$135,263.83; Mattapoisett, \$1.14; Middleborough, \$490,553.43; Pembroke, \$54,564.95.

*Worcester County.* — Ashburnham, \$462.73; Athol, \$24.37; Charlton, \$15,249.78; Dudley, \$117,437.92; Gardner, \$22,024.85; Northborough, \$38,314.85; Shrewsbury, \$268,778.09; Southborough, \$119,387.84; Southbridge, \$64,950.06; Sturbridge, \$93,470.47; Westborough, \$311,150.09; Westminster, \$94.80; Winchendon, \$117.82.

## MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws, and Chapter 146, Acts of 1929)

The expenditures during the year in various counties were: —

Barnstable, \$369,129.32	Middlesex, \$767,149.73
Berkshire, \$495,460.27	Nantucket, \$677.78
Bristol, \$705,413.38	Norfolk, \$789,037.06
Dukes, \$9,869.54	Plymouth, \$570,372.04
Essex, \$984,991.15	Suffolk, \$29,483.43
Franklin, \$544,091.85	Worcester, \$575,014.96
Hampden, \$508,926.90	Total, \$6,519,100.78
Hampshire, \$169,483.37	

Details of the foregoing expenditures follow: —

*Barnstable County.* — Barnstable, \$7,827.97; Bourne, \$19,667.65; Brewster, \$222,246.14; Chatham, \$3,017.06; Dennis, \$29,485.94; Eastham, \$1,707.68; Falmouth, \$7,278.27; Harwich, \$1,824.74; Mashpee, \$5,479.54; Orleans, \$4,494.64; Provincetown, \$51,810.53; Sandwich, \$5,647.11; Truro, \$3,030.39; Wellfleet, \$1,958.09; Yarmouth, \$3,653.57.

*Berkshire County.* — Adams, \$2,570.33; Becket, \$156,368.40; Cheshire, \$4,095.28; Clarksburg, \$8,030.85; Dalton, \$5,839.60; Egremont, \$7,370.87; Florida, \$72,097.31; Great Barrington, \$15,031.51; Hancock, \$2,898.26; Hinsdale, \$2,754.35; Lanesborough, \$6,348.86; Lee, \$43,016.22; Lenox, \$8,902.31; New Ashford, \$2,370.39; New Marlborough, \$110.77; North Adams, \$48,148.35; Otis, \$3,483.31; Pittsfield, \$14,089.46; Richmond, \$1,643.50; Sandisfield, \$3,097.88; Savoy, \$28,815.96; Sheffield, \$11,474.22; Stockbridge, \$3,873.76; Washington, \$1,969.57; West Stockbridge, \$540.55; Williamstown, \$17,733.94; Windsor, \$22,784.46.

*Bristol County.* — Acushnet, \$3,875.35; Attleborough, \$64,573.85; Berkley, \$555.57; Dartmouth, \$4,758.66; Dighton, \$93,517.47; Easton, \$6,349.34; Fairhaven, \$3,889.49; Fall River, \$8,986.63; Freetown, \$4,101.86; Mansfield, \$3,820.21; New Bedford, \$989.76; North Attleborough, \$131,001.58; Norton, \$23,253.68; Raynham, \$3,954.60; Rehoboth, \$168,614.96; Seekonk, \$37,820.15; Somerset, \$20,847.74; Swansea, \$9,584.29; Taunton, \$111,201.80; Westport, \$3,716.39.

*Dukes County.* — Chilmark, \$4,041.73; Edgartown, \$844.59; Gay Head, \$663.83; Oak Bluffs, \$263.54; Tisbury, \$413.25; West Tisbury, \$3,642.60.

*Essex County.* — Amesbury, \$2,947.22; Andover, \$7,587.81; Beverly, \$11,246.93; Danvers, \$52,910.37; Essex, \$2,232.37; Gloucester, \$28,342.81; Groveland, \$1,763.93; Hamilton, \$3,002.97; Haverhill, \$3,276.09; Ipswich, \$61,143.33; Lawrence, \$1,390.97; Lynn, \$75,097.92; Lynnfield, \$4,063.52; Manchester, \$7.03; Merrimac, \$966.29; Methuen, \$5,128.84; Middleton, \$3,162.95; Newbury, \$237,510.81; Newburyport, \$22,796.84; North Andover, \$35,377.23; Peabody, \$7,166.40; Rockport, \$5,698.81; Rowley, \$162,921.61; Salem, \$5,280.89; Salisbury, \$9,860.37; Saugus, \$21,042.36; Swampscott, \$2,935.98; Topsfield, \$200,689.97; Wenham, \$2,541.37; West Newbury, \$6,897.16.

*Franklin County.* — Ashfield, \$2,033.78; Bernardston, \$4,640.14; Buckland, \$7,809.26; Charlemont, \$49,390.51; Colrain, \$9,213.80; Conway, \$1,986.08; Deerfield, \$10,127.44; Erving, \$254,612.91; Gill, \$230.04; Greenfield, \$5,501.14; Mon-



tague, \$7,798.36; Northfield, \$8,401.23; Orange, \$154,931.79; Shelburne, \$15,134.99; Sunderland, \$9,369.73; Whately, \$2,910.65.

*Hampden County.* — Agawam, \$7,227.93; Blandford, \$4,457.40; Brimfield, \$5,692.59; Chester, \$219,427.44; Chicopee, \$3,893.66; East Longmeadow, \$2,115.22; Holyoke, \$3,434.78; Monson, \$2,090.54; Palmer, \$11,922.64; Russell, \$9,449.64; Southwick, \$5,235.21; Tolland, \$195.39; Wales, \$1,642.87; West Springfield, \$158,395.48; Westfield, \$4,506.66; Wilbraham, \$69,239.45.

*Hampshire County.* — Amherst, \$6,631.85; Belchertown, \$3,346.67; Cumington, \$13,670.54; Easthampton, \$3,656.28; Goshen, \$4,857.92; Granby, \$5,708.50; Hadley, \$84,055.69; Hatfield, \$3,626.49; Huntington, \$12,916.74; Northampton, \$5,180.56; South Hadley, \$7,486.17; Southampton, \$3,608.14; Ware, \$10,326.95; Williamsburg, \$4,410.87.

*Middlesex County.* — Acton, \$5,262.23; Arlington, \$3,771.74; Ashby, \$6,245.96; Ashland, \$3,813.44; Ayer, \$1,324.52; Bedford, \$1,665.46; Billerica, \$106,133.10; Boxborough, \$3,130.41; Burlington, \$3,719.57; Chelmsford, \$2,310.92; Concord, \$5,849.24; Dracut, \$4,665.21; Framingham, \$2,692.38; Groton, \$4,544.27; Holliston, \$2,766.73; Hudson, \$1,168.21; Lexington, \$5,658.47; Lincoln, \$1,274.78; Littleton, \$22,197.38; Lowell, \$2,274.62; Malden, \$35.78; Marlborough, \$7,121.10; Medford, \$1,215.64; Melrose, \$942.46; Natick, \$243,409.36; Newton, \$34,764.11; North Reading, \$1,884.31; Pepperell, \$1,877.67; Reading, \$122,487.24; Shirley, \$4,435.16; Somerville, \$683.47; Stoneham, \$101,431.23; Sudbury, \$3,591.43; Tewksbury, \$3,831.74; Townsend, \$13,345.10; Tyngsborough, \$2,910.23; Waltham, \$735.43; Watertown, \$925.03; Wayland, \$4,206.48; Westford, \$4,375.71; Weston, \$10,016.91; Wilmington, \$2,047.43; Winchester, \$3,551.44; Woburn, \$6,856.63.

*Nantucket County.* — Nantucket, \$677.78.

*Norfolk County.* — Avon, \$82,740.85; Bellingham, \$5,519.11; Braintree, \$20,745.91; Canton, \$27,482.74; Cohasset, \$667.20; Dedham, \$137,464.80; Dover, \$1,156.52; Foxborough, \$10,305.96; Franklin, \$5,758.54; Holbrook, \$4,904.29; Milton, \$11,903.00; Needham, \$572.40; Norfolk, \$589.95; Norwood, \$2,595.11; Plainville, \$2,141.11; Quincy, \$98,133.84; Randolph, \$152,676.74; Sharon, \$325.27; Stoughton, \$5,953.13; Walpole, \$1,905.04; Wellesley, \$86,273.54; Westwood, \$1,277.68; Weymouth, \$116,132.61; Wrentham, \$11,811.72.

*Plymouth County.* — Abington, \$1,890.14; Bridgewater, \$9,851.11; Brockton, \$3,633.66; Duxbury, \$3,659.26; East Bridgewater, \$24,281.03; Hanover, \$122,456.81; Hingham, \$17,485.49; Kingston, \$1,033.88; Lakeville, \$9,999.78; Marion, \$215,089.03; Marshfield, \$3,087.30; Mattapoisett, \$2,642.03; Middleborough, \$37,645.78; Norwell, \$1,700.52; Pembroke, \$1,229.32; Plymouth, \$31,940.70; Rochester, \$4,131.91; Rockland, \$375.51; Scituate, \$4,518.08; Wareham, \$71,534.00; West Bridgewater, \$1,150.73; Whitman, \$1,035.97.

*Suffolk County.* — Boston, \$2,995.76; Chelsea, \$700.06; Revere, \$25,787.61.

*Worcester County.* — Ashburnham, \$6,729.46; Athol, \$21,825.34; Auburn, \$5,772.43; Barre, \$68,193.98; Blackstone, \$5,177.58; Brookfield, \$1,180.96; Charlton, \$8,870.19; Douglas, \$1,865.24; Dudley, \$2,565.22; East Brookfield, \$2,039.39; Fitchburg, \$2,428.59; Gardner, \$91,969.87; Grafton, \$5,061.65; Hardwick, \$379.33; Harvard, \$2,190.20; Holden, \$4,649.93; Hopedale, \$5,179.09; Lancaster, \$1,416.84; Leicester, \$4,788.52; Leominster, \$5,796.23; Lunenburg, \$4,646.92; Mendon, \$4,380.29; Milford, \$22,146.72; Millbury, \$4,960.21; Millville, \$4,130.58; New Braintree, \$792.13; North Brookfield, \$760.94; Northborough, \$7,415.73; Northbridge, \$4,210.92; Oakham, \$1,535.72; Oxford, \$7,494.53; Paxton, \$4,014.74; Petersham, \$6,195.05; Phillipston, \$22,041.19; Princeton, \$1,187.21; Rutland, \$9,069.69; Shrewsbury, \$43,955.31; Southborough, \$2,638.58; Southbridge, \$725.01; Spencer, \$3,199.42; Sterling, \$11,257.92; Sturbridge, \$9,106.63; Sutton, \$3,441.48; Templeton, \$66,418.00; Upton, \$45,871.07; Uxbridge, \$4,081.01; Warren, \$4,650.60; Webster, \$1,483.71; West Boylston, \$3,008.48; West Brookfield, \$1,991.08; Westborough, \$2,411.77; Westminster, \$8,708.74; Winchendon, \$3,451.26; Worcester, \$5,552.28.

*Miscellaneous expenditures are as follows: —*

New trucks . . . . .	\$19,925 00
Truck repairs . . . . .	29,719 66



Truck operation . . . . .	\$10,193 06	
Truck plow repairs . . . . .	40,462 20	
Tractor repairs . . . . .	28,701 36	
Tractor operation . . . . .	10,456 16	
Tractor plow repairs . . . . .	35,998 54	
Snow fence . . . . .	5,395 78	
Towns assessed under Chapter 273, Acts of 1927	241,846 38	
		\$422,698 14
Warning signs . . . . .	\$19,374 62	
Direction signs . . . . .	61,847 70	
Control signals . . . . .	23,717 41	
Traffic survey . . . . .	30,262 04	
Traffic accidents . . . . .	6,948 01	
Traffic permits . . . . .	5,819 24	
		\$147,969 02
Somerset Bridge . . . . .	\$15,243 90	
Newburyport Bridge . . . . .	4,775 76	
Fairhaven-New Bedford Bridge . . . . .	10,065 56	
		\$30,085 22
Detour bulletins . . . . .		3,930.85
Tercentenary signs . . . . .		14,364 04
Total of miscellaneous expenditures . . . . .		\$619,047 37

#### REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

(Section 19, chapter 81, General Laws, as amended by chapter 273, Acts of 1927.)

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended by chapter 273, Acts of 1927.

The cooperation of the Department with officers of cities, towns and counties in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended by section 2, chapter 482, Acts of 1923.

In accordance with the provisions of these laws, the Department selected 1,483 miles of highways on the principal routes of travel, 1,383 miles of which are State highways and 100 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$422,698.14, which includes the cost of the maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces.

#### UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth was placed in the Department of Public Works by chapter 357 of the Acts of 1928. The Department is thereby enabled to insure that all traffic control signals to be erected by the municipalities shall conform to standards adopted by the Department and cooperates with the cities and towns for the purpose of properly locating and operating such signals. All through ways desired by the municipalities must first be approved by the Department before such may become effective.

In order to secure uniformity in the matter of traffic control, two bulletins



have been issued during previous years as follows: Bulletin No. 1. "Recommendations and Requirements relating to Through Ways"; and Bulletin No. 2. "A standard Code for Traffic Signal Installation and Operation". These present the standards which are required to be met by the cities and towns for the installation and maintenance of traffic signs, signals and devices for the control of traffic.

TRAFFIC CONTROL SIGNALS AND REGULATIONS APPROVED

During the year the Department has issued approval of the following traffic control features:

	In 1930	Previously	Total to Date
Traffic Signals, at intersections . . . . .	72	479	551
Traffic Beacons . . . . .	33	92	125
"Through Ways" . . . . .	43	44	87
Traffic Signs and Markings . . . . .	69	16	85
Traffic Rules and Regulations . . . . .	59	59	118

The Department installed traffic control signals at 11 intersections during the year; one was installed the previous year.

DIRECTION SIGNS, ROUTE MARKERS, WARNING SIGNS AND TRAFFIC CONTROL  
SIGNALS ERECTED BY DEPARTMENT

The Department has given a great deal of study to the determination of the important routes of travel for the purpose of marking and furnishing direction signs as aids for traveling. Ninety-five automobile routes have been selected, including practically every city, town and village in the Commonwealth, having a total mileage of 3,200 miles. Included in this designation are the so-called United States routes, the numbering of which conforms to the numbers approved by the United States Bureau of Public Roads. The other routes selected are numbered according to the State's designation.

The placing of route numbers and direction signs at points of advantage on these designated highways is done by the Department both on State highways and on city and town ways, permission for the latter being obtained from the local authorities. Warning signs and traffic control signals which are erected and maintained by the Department are placed only on State highways.

The adoption of the route markers equipped with reflecting buttons has proven the greatest aid for night driving. A total of 8,552 such markers have been made for use on the highways.

Traffic control signals were erected by the Department at eleven intersections on the State highways during the year.

The manufacture of many of these signs and the erection and maintenance of all of these signs and signals are part of the highway maintenance activities.

TRAFFIC COUNT

The importance of definite information regarding the volume and characteristics of the actual traffic on the highways is more generally recognized as a guide in the determination of routes, in the design of highways adequate to serve the demand for transportation and for the safe and efficient use of the highways already constructed.

In 1909 the Massachusetts Highway Commission commenced recording by actual count the number and types of vehicles on the important State highways, and since that time traffic counts have been taken every three years.

The traffic problem is not limited to State highways but is also of great concern for all the important routes of travel, so that the studies of traffic now include all the numbered routes.

The method recently adopted for this count was as follows:— There were selected 28 so-called key stations which were considered to be the most representative of traffic conditions in their respective localities. Traffic at these points, or key stations, was counted for 24 hours on Wednesday, Saturday and

Sunday only, and on the other four days of the week from 7 A. M. to 11 P. M. during the week in August, beginning August 26, in 1929, and August 20, in 1930. Traffic at the remaining stations selected, numbering 358 in 1929 and 366 in 1930, were counted only from 7 A. M. to 11 P. M. for one day only. The daily variation at this larger number of stations was considered to be equivalent to the daily variation of the appropriate key stations.

Since the greater amount of highway traffic is upon the numbered route system, all stations were located upon them, and these stations were at intersections where all movements could be counted, and so selected as to afford a means of tracing traffic along each route without losing track of it.

All vehicles were counted as they entered the intersection and classified as to direction (straight through, or turning left or right). All of the key stations and 172 of the one-day stations were classified also as to type of vehicle, namely, — (1) passenger cars, (2) heavy trucks, (3) light trucks, (4) buses.

A comparison of the average number of vehicles per day, at stations which were identical during several traffic counts, was made for 130 such stations for the years 1921, 1924, 1927 and 1930, as follows:—

Year of Count	Aver. Number of Vehicles Per Day Per Station
1921 . . . . .	1,924
1924 . . . . .	3,716
1927 . . . . .	3,616
1930 . . . . .	5,257

A classification of types of vehicles as determined from the counts at key stations indicates that commercial vehicles are about 9% of the total traffic.

Variations of traffic flow were studied to ascertain the hourly, daily, monthly and yearly variations.

A study of the statistics obtained indicates that the flow of traffic is concentrated at districts, particularly near the large centers, and especially in the metropolitan area. Recreational areas also draw large volumes of traffic. Inter-state traffic uses highways leading across the State lines on about thirty-two principal routes, crossing the State line at 43 points of entry. The data obtained indicates that the number of vehicles entering just about equals the number leaving the State.

The Department has made for its use flow maps and other diagrams portraying graphically various factors in the analysis of traffic flow movements on the numbered highways.

Delay and accident studies also have been made in connection with studies for the improvement of important intersections in order to ascertain the relative importance of such intersections for the purpose of planning grade separations.

TRAFFIC ACCIDENT STUDIES

A study has been made of attendant circumstances and physical characteristics at points on the highways where accidents have occurred, in order to measure the effectiveness of control or lack of control of traffic movements at such points. Such information included the type of district, layout of the roadway, means of traffic control, atmospheric conditions, light conditions, condition of roadway, physical obstructions in the roadway and obstructions to view. This information is required in reports submitted to the Registry of Motor Vehicles and is supplied to the traffic engineering section for study.

In connection with the study of such data a large wall map is used to locate by pins the points where accidents occur. The data obtained by the traffic count is also used in connection with the records of accidents on numbered automobile routes. It is believed that these studies will assist in determination of hazardous conditions so that the physical characteristics or traffic control measures, or both, will be altered to produce greater factors of safety at such points on the highways.



# MOTOR VEHICLE TRAFFIC AT INTERSECTIONS ON NUMBERED AUTOMOBILE ROUTES

Total number of vehicles passing through designated intersections during a period of 16 hours on a Wednesday and on a Sunday in August of 1929 and 1930. (Includes passenger automobiles, trucks and buses.)

Key stations are designated by the symbol °.

The figures given for key stations and certain others, are the actual counts on days noted (marked \*). The figures given for the other stations are calculated values derived from the actual count when taken, as modified by the daily variation factors of the appropriate key station.

Sta. No.	Town	Route	Wednesday August 28 1929	Wednesday August 20 1930	Sunday August 25 1929	Sunday August 24 1930
1	Abington . . . .	102-123	5,850	5,688*	9,594	8,057
1A	Abington . . . .	58-123	—	4,288	—	6,075
3	Acushnet . . . .	105	913	939	1,954	1,945
5	Agawam . . . . .	5A	5,289	4,116*	8,038	6,151
7	Amesbury . . . . .	110	6,851	5,968*	9,781	9,398
7A	Amesbury . . . . .	110	4,748	3,472	7,294	5,467
8	Amherst . . . . .	109-116	8,189	3,587	14,576	6,695
9	Andover . . . . .	28-133	8,436	10,908	15,268	19,563
9B	Andover . . . . .	28	—	6,803*	—	12,198
10	Cambridge . . . .	2	—	24,073*	—	23,942
11	Ashburnham . . . .	119	929	749	2,508	1,867
12	Ashby . . . . .	108-119	2,171	1,743	5,853	4,938
13	Ashfield . . . . .	112-116	—	950*	—	2,157
14	Ashland . . . . .	135	4,476	2,844	10,445	5,587
15	Athol ° . . . . .	2-32	3,784	4,407*	7,134	8,586*
15A	Athol . . . . .	2	3,637	5,089	6,873	9,591
16	Attleboro ° . . . .	1-123	9,816	9,723*	16,133	15,104*
17	Auburn . . . . .	12	8,681	7,227	18,012	11,804
19	Ayer . . . . .	2	5,326	3,993	13,417	9,953
19A	Ayer . . . . .	2-110	4,738	4,362	11,932	10,873
20	Barnstable . . . .	6-132	4,824	4,868	10,416	9,914
20A	Barnstable . . . .	6-49	5,115	5,625*	10,997	11,455
20B	Barnstable . . . .	28-49	3,110	3,770	6,243	7,677
20C	Barnstable . . . .	28-130	2,336	2,438*	4,061	4,965
21	Barre . . . . .	32-122	1,843	1,726	3,071	3,413
21A	Barre ° . . . . .	32-67	1,513	1,112	2,540	2,198
22	Becket . . . . .	8-20	2,006	1,835*	5,054	3,940*
22A	Becket . . . . .	8-20	1,880	1,754*	4,405	3,692
23	Bedford . . . . .	2A-62	3,816	5,126	9,676	14,513
23A	Bedford . . . . .	2A-4-62	4,320	5,524	10,956	15,640
24A	Belchertown . . . .	21	1,883	2,526	3,257	4,771
25	Bellingham . . . .	140	1,735	2,323	3,505	4,735
28	Berlin . . . . .	62	1,607	1,622	2,983	3,009
29	Bernardston . . . .	5-10	3,093	3,444	5,319	7,294
30A	Beverly . . . . .	97-1A	6,334	7,331*	14,021	15,708
30B	Beverly . . . . .	1A-62	9,700	9,481	21,413	20,317
30C	Beverly . . . . .	1A-127	17,150	17,470	37,729	37,434
30D	Beverly . . . . .	127-	8,130	7,470	17,323	16,006
31	Billerica . . . . .	3	5,235	4,743	8,990	10,317
34	Bolton . . . . .	117	1,033	1,204*	2,270	2,233
34A	Bolton . . . . .	110-117	2,388	1,938*	5,012	3,595
35	Boston . . . . .	43	41,445	47,817	73,326	80,086
36	Bourne . . . . .	6-28	9,762	9,478*	19,409	19,302
36A	Bourne . . . . .	3-6	4,790	6,433*	10,292	13,101
36B	Bourne . . . . .	6	4,155	5,377	9,033	10,952
36C	Bourne . . . . .	28	5,852	6,130	10,212	12,485
39	Boylston . . . . .	110	—	2,749*	—	5,302
40	Braintree . . . . .	37-58	6,016	7,858*	11,211	15,602
40A	Braintree . . . . .	37-58	5,043	7,605	9,437	15,118
41	Brewster . . . . .	6-24	—	3,698*	—	4,398
42	Bridgewater . . . .	28	5,045	4,477	9,401	8,901
43	Brimfield . . . . .	32-131	2,143	2,402*	3,601	4,535
44A	Brockton . . . . .	28-37	8,163	8,057	14,916	16,017
44B	Brockton . . . . .	28-28	7,756	7,014*	14,658	12,723
47	Buckland . . . . .	2-112	—	3,122	—	7,107
48	Burlington . . . .	3-62	5,021	5,494	9,684	11,948
48A	Burlington . . . .	3-62	5,078	4,487	9,794	9,760
50	Canton . . . . .	138-58	9,877	12,041*	18,470	24,804
50A	Canton . . . . .	138	9,935	10,487	18,571	21,606
51	Carlisle . . . . .	2A-126	1,233	905	3,119	2,562
52A	Carver . . . . .	58-101	1,237	1,618	2,963	3,433
52B	Carver . . . . .	58-101	1,497	1,636	3,577	3,473
54	Charlton . . . . .	124-124A	—	3,217*	—	6,087
55	Chatham . . . . .	28	6,025	6,375	7,643	6,438
55A	Chatham . . . . .	25-28	—	3,688	—	3,725*
56	Chelmsford ° . . . .	3-4	7,772	8,096*	15,772	17,609*
56A	Chelmsford . . . .	4-110	7,543	5,491	18,971	15,544
56B	Chelmsford . . . .	3	7,865	8,366*	15,887	18,087
56C	Chelmsford . . . .	4-126	4,159	4,455	10,560	12,612
63	Clarksburg . . . .	8	1,519	847	2,384	2,083
67	Concord . . . . .	2-111	4,491	4,691	12,839	12,679

## MOTOR VEHICLE TRAFFIC AT INTERSECTIONS (Continued)

Sta. No.	Town	Route	Wednesday August 28 1929	Wednesday August 20 1930	Sunday August 25 1929	Sunday August 24 1930
67A	Concord . . . . .	117-126	1,827	1,714	4,121	4,633
67C	Concord . . . . .	2-62	6,796	7,325	19,436	19,797
67D	Concord . . . . .	62	2,557	2,867	7,312	7,751
69	Cummington . . . . .	9-112	2,064	844	3,117	1,960
70	Dalton . . . . .	8-109-A	5,380	2,965	8,183	6,883
72	Danvers ° . . . . .	1-114	9,494	11,379*	21,073	25,084*
72A	Danvers . . . . .	162	9,677	11,017	21,691	24,397
73	Dartmouth . . . . .	6	8,432	9,132*	16,003	13,393
74	Dedham . . . . .	1	12,716	11,107	23,525	18,471
74A	Dedham ° . . . . .	1	10,548	10,417*	19,546	17,068*
74B	Dedham . . . . .	128-137	9,985	7,254	18,501	11,930
75	Deerfield ° . . . . .	5-10-116	5,803	5,500*	9,836	10,272*
76	Dennis . . . . .	6-134	2,727	3,091	3,981	3,677
76A	Dennis . . . . .	28-134	4,304	5,185*	5,412	6,167
77	Dighton . . . . .	138	3,814	5,069	6,865	6,743
81	Dudley . . . . .	131	7,494	4,926	19,954	8,100
83	Duxbury . . . . .	3A-19	—	3,521	—	6,013
85	E. Bridgewater . . . . .	102-106	2,862	3,275	5,384	4,639
86	E. Brookfield . . . . .	20-67	6,597	4,925	11,362	9,415
88	Easthampton . . . . .	10	6,146	6,182	7,082	9,231
88A	Easthampton . . . . .	5	8,966	8,145	10,425	12,169
90	Easton ° . . . . .	138-123	8,263	8,132*	15,502	16,149*
90A	Easton . . . . .	106-123	1,813	2,174	3,378	4,322
90B	Easton . . . . .	106-123	6,665	7,108	12,474	14,131
90C	Easton . . . . .	106-138	1,305	1,226	2,442	2,438
90D	Easton . . . . .	138	7,805	8,070	14,615	15,854
90E	Easton . . . . .	138	7,574	8,277	14,037	17,052
92	Egremont . . . . .	17	1,914	1,925	2,991	2,945
93	Enfield . . . . .	109-21	1,879	1,903	3,520	3,641
95	Essex . . . . .	121	3,716	3,452	7,803	7,057
95A	Essex . . . . .	—	3,253	5,336	6,809	9,608
97	Fairhaven . . . . .	6	9,292	8,053	20,045	17,148
98	Fall River . . . . .	138	10,038	13,865	18,918	20,335
99	Falmouth . . . . .	28	5,058	5,375	8,840	10,945
100	Fitchburg . . . . .	2-12	4,382	7,321	10,957	18,254
100A	Fitchburg . . . . .	2-120	2,821	5,079	7,053	12,660
102	Foxboro . . . . .	140	3,588	3,330	8,216	6,495
103	Framingham . . . . .	115	4,933	6,584	11,576	12,938
103A	Framingham . . . . .	126-135	—	15,859	—	31,157
104A	Franklin . . . . .	140	3,719	3,856	7,512	7,860
105	Freetown . . . . .	104-140	3,256	3,081	7,040	6,558
106A	Gardner . . . . .	2-68	—	6,357	—	12,795
108	Georgetown . . . . .	97-133	2,973	3,104	4,722	6,137
108A	Georgetown . . . . .	97-123	1,356	1,490	2,142	2,946
110	Gloucester . . . . .	121-127	12,965	12,859	27,109	29,197
111	Goshen . . . . .	109-112	3,381	1,577	5,058	3,675
113	Grafton . . . . .	122-140	2,954	4,287*	6,144	8,934
113A	Grafton . . . . .	122-115	3,653	4,606*	7,642	9,488
113B	Grafton . . . . .	122-122A	4,118	4,999	8,619	8,221*
116	Gt. Barrington . . . . .	7-17	6,126	6,010	9,480	9,193
116A	Gt. Barrington . . . . .	7-118	6,370	5,999*	9,859	9,173
116B	Gt. Barrington . . . . .	7	5,333	5,501*	8,333	8,411
116D	Great Barrington . . . . .	17-71-118	—	2,518	—	3,854
117	Greenfield . . . . .	2	4,166	5,029	7,162	10,651
117A	Greenfield . . . . .	5	5,059	4,801	8,686	10,166
117B	Greenfield . . . . .	5	5,818	5,388	10,006	11,411
119	Groton . . . . .	2A-119	1,723	1,364	4,648	3,864
119A	Groton . . . . .	119-2A	2,750	2,031	7,420	5,756
119B	Groton . . . . .	119-2A	2,531	2,010	5,084	5,695
120	Groveland . . . . .	125-97	4,380	4,067*	6,729	7,924
121	Hadley . . . . .	109	3,606	3,642	5,446	6,670
122	Halifax . . . . .	58-106	2,000	2,356*	4,780	5,000
125	Hancock . . . . .	2	388	248	594	565
126	Hanover . . . . .	3-123	4,497	4,918	8,647	9,237
126A	Hanover . . . . .	3	5,343	6,375*	9,510	11,972
127A	Hanson . . . . .	19-58	—	2,757	—	4,617
127B	Hanson . . . . .	15-58	—	2,339*	—	3,917
129	Harvard . . . . .	110-111	2,103	2,213*	5,268	5,502
130	Harwich . . . . .	24-28	—	5,278	—	5,330
132	Haverhill . . . . .	110	10,757	8,822*	16,549	17,644
135	Hingham . . . . .	3A	14,289	12,942	25,556	22,173
135A	Hingham . . . . .	3A	13,065	13,385	21,820	22,417
135B	Hingham . . . . .	3	—	5,180	—	8,675
136	Hinsdale . . . . .	8-109	2,240	1,938	3,399	4,516
137	Holbrook . . . . .	37	—	6,243	—	12,411
138	Holden . . . . .	122A-68	2,048	1,797	3,413	3,510
138A	Holden . . . . .	122A	4,050	3,096*	6,750	6,046
138B	Holden . . . . .	122A-120	3,113	3,788	5,198	7,401
140	Holliston . . . . .	126	3,566	3,707	6,954	6,094
141	Holyoke ° . . . . .	5	10,030	10,357*	15,194	15,479*
141A	Holyoke . . . . .	5	8,348	14,164	9,560	23,880
143	Hopkinton . . . . .	85	2,254	2,116	4,173	3,926
145	Hudson . . . . .	62-85	3,219	3,767	5,833	6,988
147	Huntington . . . . .	66-112	492	531	1,209	1,129



## MOTOR VEHICLE TRAFFIC AT INTERSECTIONS (Continued)

Sta. No.	Town	Route	Wednesday August 28 1929	Wednesday August 20 1930	Sunday August 25 1929	Sunday August 24 1930
147A	Huntington . . . . .	20-112	2,816	4,098	7,039	8,632
148	Ipswich . . . . .	1A-121	5,110	4,826*	10,834	10,607*
149	Kingston . . . . .	3-3A	4,348	4,747*	10,455	10,014
149B	Kingston . . . . .	15-106	—	2,470	—	5,242
150	Lakeville . . . . .	104-105	1,168	1,173*	2,499	2,429
152	Lanesborough . . . . .	7	1,075	1,771*	1,658	4,020
154	Lee . . . . .	20-141	3,670	3,849	5,695	5,535
155	Leicester . . . . .	20	7,694	6,896	13,250	13,184
156	Lenox . . . . .	20-7	6,097	5,962*	9,491	8,850*
157	Leominster . . . . .	12	4,915	6,133	9,437	11,913
159	Lexington . . . . .	2-128	7,260	8,862	20,733	23,945
159B	Lexington . . . . .	2A-2	11,553	11,122	48,506	31,486
159C	Lexington . . . . .	2A-2	12,976	12,219*	36,911	34,591
159D	Lexington . . . . .	2	5,248	5,472	14,999	14,785
159E	Lexington . . . . .	128-	3,866	4,494	8,699	12,724
161	Lincoln . . . . .	117-	4,184	3,850	9,372	7,142
162	Littleton . . . . .	119-110	4,044	3,817*	10,831	9,481*
162A	Littleton . . . . .	—	2,747	3,353*	5,466	6,034*
164	Lowell . . . . .	3B-133	7,545	7,704	12,902	13,550
164A	Lowell . . . . .	3B	8,361	8,661	14,333	15,231
166	Lunenburg . . . . .	2	2,611	3,041	6,652	7,581
166A	Lunenburg . . . . .	2	3,783	4,470	9,494	11,142
167	Lynn . . . . .	1A-129	10,361	11,993*	22,794	25,698
167B	Lynn . . . . .	1A-129	15,930	8,627*	35,167	18,486
168	Lynnfield . . . . .	1-128	11,328	15,003*	25,076	32,599
169	Malden . . . . .	1-60	13,361	18,453	34,692	40,084
171	Mansfield . . . . .	106-	1,586	1,560	3,632	3,042
171A	Mansfield . . . . .	140-	3,290	3,700	7,529	7,216
172	Marblehead . . . . .	129-	9,810	7,432	21,581	15,925
173	Marion . . . . .	6-105	5,322	5,797	11,580	11,527
174	Marlborough . . . . .	20-	7,425	7,836	13,513	14,292
174A	Marlborough . . . . .	20-	5,951	8,848	10,842	16,138
175	Marshfield . . . . .	3A-	4,755	6,415	12,212	10,948
176	Mashpee . . . . .	28-	2,063	2,173	3,586	4,425
178	Maynard . . . . .	117-62	2,248	2,750	5,018	5,100
179	Medfield . . . . .	137-	3,436	3,762	6,700	6,168
180	Medford . . . . .	28-	13,051	9,990	25,123	18,438
180A	Medford . . . . .	1-28	—	50,340	—	92,969
181	Medway . . . . .	137-	2,054	2,459	4,005	4,044
183	Mendon . . . . .	126-	2,724	2,289	5,341	4,665
185	Methuen . . . . .	28-	7,608	12,278	13,821	23,048
185B	Methuen . . . . .	110-	7,067	7,294	12,732	14,589
185C	Methuen . . . . .	110-	5,887	5,970	10,693	11,945
186	Middleborough . . . . .	28-101	8,339	7,291	17,209	7,891
186A	Middleborough . . . . .	28-	4,839	4,556	9,955	9,326
188	Middleton . . . . .	62-114	3,694	5,570	8,338	10,084
189	Milford . . . . .	126-137	3,631	4,364	6,120	7,177
189A	Milford . . . . .	140	—	2,173	—	3,574
190	Millbury . . . . .	122A-	5,869	3,702*	12,294	6,088
191	Millis . . . . .	137-	2,545	2,563	4,963	4,215
192	Millville . . . . .	122-	3,758	4,142*	7,867	8,789*
193	Milton . . . . .	28-128	6,628	4,451	12,394	8,846
193A	Milton . . . . .	28-	4,425	2,853	8,201	5,878
193B	Milton . . . . .	128-	9,620	10,842*	17,989	22,334
193C	Milton . . . . .	28-138	—	22,007	—	45,342
195	Monson . . . . .	32A	1,667	895	2,794	1,690
202	Natick . . . . .	135-	6,657	8,765	12,193	14,407
202A	Natick . . . . .	115-	3,895	4,246	7,283	6,982
203	Needham . . . . .	128-135	4,483	4,687	8,324	7,708
203A	Needham . . . . .	128	—	5,075	—	9,243
208	Newburyport . . . . .	1-1A	11,574	11,394*	18,338	17,957*
208B	Newburyport . . . . .	125	—	4,265	—	7,340
211	Newton . . . . .	20A-128	8,394	12,276	15,729	23,153
211A	Newton . . . . .	115A	8,870	9,153	16,582	17,262
211B	Newton . . . . .	115A-128	6,478	9,645	12,139	18,191
211C	Newton . . . . .	115-128	6,005	10,140	11,122	19,124
211D	Newton . . . . .	20A	—	9,755	—	18,398
213A	North Adams . . . . .	8-	4,930	2,703	7,739	6,694
214	Northampton . . . . .	5-10	10,374	7,697*	15,887	14,096
215	No. Andover . . . . .	114-133	4,565	3,518	8,292	7,036
215A	No. Andover . . . . .	125-133	6,773	4,885	7,353	9,171
215B	No. Andover . . . . .	114-125	6,802	6,268*	9,272	12,560*
215C	No. Andover . . . . .	133-125	4,177	4,958	7,560	9,310
215D	No. Andover . . . . .	125-	4,926	5,020	8,876	12,236
216A	No. Attleboro . . . . .	1-	9,523	8,808*	16,284	15,085
218	Northbridge . . . . .	122-	4,020	4,227	8,415	7,637
220	Northfield . . . . .	10-63	1,991	2,161	3,388	4,032
221	No. Reading . . . . .	28-62	7,573	8,061	15,058	15,878
221A	No. Reading . . . . .	28-62	7,839	7,994*	14,470	14,828*
223	Norwell . . . . .	3	5,888	6,542*	11,187	12,286
227	Orange . . . . .	2-78	2,262	3,068	4,234	5,741
228	Orleans . . . . .	6-28	3,183	4,002*	4,303	4,452*
229	Otis . . . . .	8-	637	903	1,483	1,918
230	Oxford . . . . .	12-124	4,209	6,528*	8,788	10,813*

## MOTOR VEHICLE TRAFFIC AT INTERSECTIONS (Continued)

Sta. No.	Town	Route	Wednesday August 28 1929	Wednesday August 20 1930	Sunday August 25 1929	Sunday August 24 1930
230A	Oxford	12	—	5,377	—	7,750
231	Palmer	20-32	5,961	4,673	10,046	8,827
231A	Palmer	32-32A	2,245	1,828	3,806	3,452
231B	Palmer	32-	2,577	1,806	4,319	3,410
233A	Peabody	128-	8,836	8,476	19,439	18,417
233B	Peabody	114-	6,817	6,235	15,064	13,548
235	Pembroke	3-19	—	3,496	—	8,382
235A	Pembroke	3-19	—	4,022	—	9,643
236	Pepperell	119-113	1,215	1,052	3,276	2,981
238	Petersham	32-	879	1,334	1,476	2,638
240	Pittsfield °	109-8	8,896	7,797*	13,646	17,862*
240A	Pittsfield	20-118	5,173	2,929	7,850	4,347
243A	Plymouth	3	2,663	2,761	6,379	5,755
244	Plympton	58-106	1,569	1,830	3,758	3,883
246	Princeton	64-120	841	675	1,618	1,310
246A	Princeton	64-120	642	583	1,233	1,125
247	Provincetown	6-	3,601	3,607	4,742	4,012
248	Quincy	3-	14,527	13,288	25,703	22,254
248A	Quincy	28-58	4,963	3,597*	9,280	7,151
248B	Quinnebaug	131-	2,598	1,662	6,621	2,733
249	Randolph	28-	6,870	5,411	12,847	10,756
250	Raynham	102	1,269	1,626*	2,374	3,232
250A	Raynham	138-	5,848	6,008	10,945	11,803
251	Reading	28-	8,512	8,826	16,387	16,296
253	Revere	1A-	14,095	14,097	31,008	30,209
253A	Revere	1A-	20,495	20,161*	45,243	43,201
253B	Revere	1A-	14,951	14,546	32,891	31,171
253C	Revere	1A-107	36,033	40,390	79,620	86,549
253D	Revere	60-107	13,816	17,100	30,583	36,642
253E	Revere	107-	10,332	18,810	37,350	40,307
256A	Rockland	123-58	4,419	4,160	7,929	6,965
256B	Rockland	123	—	3,563*	—	5,940
257	Rockport	127-	4,512	4,321	9,529	9,811
259	Rowley	1-133	6,918	7,634	12,451	13,021
259B	Rowley	1A-133	2,837	2,894	5,119	4,938
260	Russell	20-	3,314	3,180*	8,091	6,697
262	Rutland	122-122A	2,446	2,191*	4,076	4,334
263	Salem	1A-	9,472	8,781	11,487	18,817
263B	Salem	129	—	10,228	—	22,389
263C	Salem	107-128	—	6,640	—	14,223
264	Salisbury	1-1A	11,618	11,881	16,580	20,441
264A	Salisbury	1A-	3,379	4,404	4,817	5,207
266	Sandwich	6-130	6,291	5,182	13,586	10,554
267	Saugus	1-129	8,648	10,038	19,195	21,812
267B	Saugus	1	—	10,213	—	22,181
269	Scituate	3A-	6,437	6,010*	16,479	10,264
269A	Scituate	3A-123	4,078	4,433	10,412	7,572
269E	Seabrook	1-110	7,563	6,965	10,701	8,238
270	Seekonk	—	1,877	2,255	3,648	3,621
270A	Seekonk	6-	9,839	15,418	19,087	24,757
270B	Seekonk	101	—	9,377	—	13,885
271	Sharon	15	—	4,181	—	7,615
272	Sheffield	7-17	3,920	2,849	6,203	4,359
274	Sherborn	15-16	—	1,725	—	3,390
276	Shrewsbury	20-	15,220	15,647	27,687	28,544
276A	Shrewsbury	20-	11,540	10,422	20,993	19,009
278	Somerset °	103-138	12,894	17,982*	24,309	26,554*
278A	Somerset	103-	7,613	6,946	10,055	9,788
278B	Somerset	138-	4,747	4,992*	8,554	6,639
279	Somerville	1-128-3B	—	18,155	—	51,397
281	Southborough	85-115	1,815	1,869	3,440	3,468
282	Southbridge	124-	4,193	2,824	9,685	5,345
282A	Southbridge	131-	3,718	2,631	8,588	4,979
283	So. Hadley	116-139	4,603	5,544*	7,036	6,475
284	Southwick	10-57	5,352	3,168	6,610	4,735
286	Springfield	5-	8,872	9,156	13,485	13,682
286A	Springfield	20-21	8,813	7,513	14,872	11,226
286B	Springfield	20-20A	8,446	9,017	14,153	13,471
287	Sterling	12-62	2,938	2,913	5,641	5,658
288	Stockbridge	7-141	4,872	5,250*	7,541	8,033
288A	Stockbridge	7-141	1,844	2,170	2,881	3,591
290	Stoughton	138-	8,040	9,160	15,035	18,872
291	Stow	62-117	2,324	2,372	5,191	4,399
292A	Sturbridge	124-131	—	3,164	—	5,988
292B	Sturbridge	124-131	—	1,943*	—	3,676
293	Sudbury °	20-126	8,064	8,206*	15,109	15,216*
293A	Sudbury	20-126	8,006	7,906	15,050	14,666
293B	Sudbury	126-	2,297	2,646	5,317	4,908
297	Swansea	103-	3,107	3,250	6,040	5,218
297B	Swansea	6-136	—	10,992	—	17,648
298	Taunton	101-	3,377	2,951*	7,145	6,404
298A	Taunton	101-	3,295	3,934	5,665	8,147
298B	Taunton °	140-101	5,158	4,633*	11,347	9,721*
298C	Taunton	140-	2,911	3,292	6,662	7,098



MOTOR VEHICLE TRAFFIC AT INTERSECTIONS (*Continued*)

Sta. No.	Town	Route	Wednesday August 28 1929	Wednesday August 20 1930	Sunday August 25 1929	Sunday August 24 1930
299	Templeton . . . .	2-	2,711	3,419	5,421	6,883
299A	Templeton . . . .	2-32	2,100	2,937	4,199	5,913
299B	Templeton . . . .	68-32	3,048	3,890	6,128	7,828
300	Tewksbury . . . .	3B-	2,990	3,161	5,143	5,556
303	Topsfield . . . .	1-97	6,794	7,498	15,198	16,608
303B	Topsfield . . . .	1-	7,087	7,051	15,804	15,618
306	Tyngsborough . . . .	3-3B	6,357	6,757*	12,841	14,609
306A	Tyngsborough . . . .	3-113	6,064	6,280*	12,249	13,577
312	Walpole . . . .	1-	10,300	9,579	19,032	15,753
312A	Walpole . . . .	1-15	-	10,314	-	21,025
313	Waltham . . . .	20-117	15,446	15,991*	28,392	25,202
313A	Waltham . . . .	20-60	18,244	19,716*	33,535	31,072
314	Ware . . . .	109-32	2,512	5,418	4,652	10,369
315	Wareham . . . .	6-	5,827	6,067	11,988	12,420
315A	Wareham . . . .	6-28	8,457	8,974	17,421	18,371
315B	Wareham . . . .	28-58	5,393	5,394*	11,109	11,042
315C	Wareham ° . . . .	6	-	8,599*	-	17,077
320	Wayland . . . .	20-	9,561	9,362	17,792	17,182
322	Wellesley . . . .	115-	4,723	4,240	8,832	6,971
322A	Wellesley . . . .	115-115A	11,431	12,864	21,376	21,144
322B	Wellesley . . . .	135-	10,791	7,274	20,042	11,955
322C	Wellesley . . . .	16-135	-	11,094	-	18,234
322D	Wellesley . . . .	16-135	-	10,673	-	17,542
326	Westborough . . . .	135-	1,532	1,606	2,845	2,980
326A	Westborough . . . .	115-	1,083	1,638	2,025	3,040
327	West Boylston ° . . . .	12-110	5,521	3,795*	11,147	7,369*
327A	West Boylston . . . .	12-64	6,524	5,276	13,177	10,250
328	W. Bridgewater . . . .	28-106	8,303	6,205	15,549	12,337
329	W. Brookfield ° . . . .	20-109	5,857	4,204*	10,100	8,005*
330A	Westfield . . . .	20-	7,097	6,515	10,850	9,730
330B	Westfield . . . .	20	-	6,515	-	9,730
331	Westford . . . .	110-2A	2,901	3,078	7,977	6,713
331A	Westford . . . .	110-	2,626	2,737	7,221	5,969
333A	Westminster . . . .	2-	3,428	4,711	6,856	9,477
334	W. Newbury . . . .	125-	2,091	2,271	3,212	3,909
335	Weston ° . . . .	120-120A	10,560	10,980*	19,225	18,084*
335A	Weston . . . .	20A	4,996	4,737*	9,096	8,934
336	Westport . . . .	6-	8,793	10,362	16,572	15,199
337	W. Springfield . . . .	5-20-5	16,335	14,950	24,907	22,343
337A	W. Springfield . . . .	5-20-20A	22,242	21,332	33,912	31,875
337B	W. Springfield . . . .	20-57	8,953	10,212	15,785	15,250
338	W. Stockbridge . . . .	118-141	1,942	1,132	1,972	1,733
340	Westwood . . . .	1-	11,770	13,904	21,774	22,864
341	Weymouth ° . . . .	3-102	10,416	10,521*	18,704	17,689*
341A	Weymouth . . . .	3A-	19,266	17,721*	34,485	29,676
341B	Weymouth . . . .	158-102	7,097	6,946	11,411	9,840
341C	Weymouth . . . .	102	-	6,862	-	9,721
343	Whitman . . . .	102-	6,469	5,649	10,585	8,002
344	Wilbraham . . . .	20-	7,655	5,134	12,832	9,699
345	Williamsburg . . . .	109-109A	2,151	1,319	3,295	3,079
346	Williamstown . . . .	7-	2,617	2,681	4,006	6,092
346A	Williamstown . . . .	2-7	1,326	1,647	2,034	3,835
346B	Williamstown . . . .	2-7	5,725	7,529	8,785	17,543
346D	Williamstown . . . .	96	-	787	-	1,792
347	Wilmington . . . .	3B-129	4,737	4,859	9,612	10,569
347A	Wilmington . . . .	3B-62	6,041	5,669	12,203	12,330
348	Winchendon . . . .	12-	2,316	1,672	4,364	3,266
348A	Winchendon . . . .	32-	839	1,019	1,584	1,991
348B	Winchendon . . . .	32-12	4,267	4,759	8,064	9,568
350	Windsor . . . .	109-	2,726	1,550*	4,130	3,611
352	Woburn . . . .	3-128	7,409	7,009	14,439	15,246
352A	Woburn . . . .	3B-128	13,068	12,318	26,521	34,876
353	Worcester . . . .	122-	3,621	3,493*	6,033	6,909
353A	Worcester . . . .	12-	8,968	7,789	18,110	15,120
354	Worthington . . . .	109A-112	646	830	980	1,906
355	Wrentham ° . . . .	1-140	9,144	9,688*	17,818	17,752*
355A	Wrentham . . . .	1-142	6,949	7,395	13,528	12,641
356	Yarmouth . . . .	28-132	6,951	9,802	8,968	19,964
Total . . . .			2,054,850	2,110,858	3,979,055	4,032,135

## ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-five years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

The Department has organized and trained a group of men under competent supervision to have charge of this work, not only for the removal and trimming of trees, brush and undesirable growth, but also for the selection and planting of new growth suitable for the locations. The removal of trees and brush that may obstruct vision at curves, intersections or other points on the highways is done to insure that operating conditions shall be as safe as possible and unnecessary growth is cleared out in order to afford attractive vistas at many scenic locations. For the protection of the roadside trees the Department has maintained a corps of inspectors to supervise trimming that may be necessary for the construction of light and power transmission lines. In connection with this work there are three nurseries maintained in which the types of trees and shrubs suitable for use on the highways of Massachusetts are grown and made available for use by the Department.

During the year 1,573 trees were planted, making a total for the past twenty-six years of 59,677 trees planted; and in this year 6,261 shrubs and 207 evergreens have been planted throughout the State; in addition, 28,845 small pines have been planted on bare slopes and ragged cuts.

### TERCENTENARY SIGNS

Under the provisions of Chapter 10 of the Resolves of 1930, the Department was authorized to prepare and erect signs and suitable markers, including such as may be selected by the Massachusetts Bay Colony Tercentenary Commission, with suitable inscriptions, indicating the ancient ways of the Puritan times and the structures or places relating to or associated with the early settlements within the Commonwealth. These signs and markers, after being erected, are required to be maintained by the Department from appropriations made for the maintenance of highways.

The locations of these signs and markers were selected jointly by the local authorities of the cities and towns and the Tercentenary Commission with due consideration as to visibility, proper height and position. A total of 273 tercentenary signs were erected.

### REGULATION OF TRAFFIC ON HIGHWAYS DURING THE WINTER OF 1929-1930

As provided in section 30, chapter 85, General Laws, as amended by Chapter 526, Acts of 1922, by chapters 180 and 342, Acts of 1925, and by section 1, chapter 353, Acts of 1930, the Department on January 28, 1930, adopted regulations, and gave public notice thereof, providing that no person shall drive, operate or move any vehicle or object which with its load weighs more than ten thousand pounds over certain State highways without a permit therefor during the season. These regulations were in effect in the following counties during the periods stated: —

Barnstable County, February 17 to March 18, 1930.  
 Berkshire County, February 17 to April 8, 1930.  
 Bristol County, February 17 to March 18, 1930.  
 Franklin County, February 17 to April 8, 1930.  
 Hampden County, February 17 to April 1, 1930.  
 Hampshire County, February 17 to April 8, 1930.  
 Norfolk County, February 17 to March 18, 1930.  
 Plymouth County, February 24 to March 18, 1930.  
 Essex County, March 1 to April 1, 1930.  
 Middlesex County, March 1 to April 1, 1930.  
 Worcester County, March 1 to April 8, 1930.

### FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to cooperation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act



approved November 9, 1921, may be found in the annual reports of this Department for the years 1920-1927, inclusive.

The following Federal aid allotments have thus far been made to Massachusetts:—

For fiscal year ending June 30, 1917	.	.	.	.	.	.	\$73,850 94
For fiscal year ending June 30, 1918	.	.	.	.	.	.	147,701 90
For fiscal year ending June 30, 1919	.	.	.	.	.	.	958,145 15
For fiscal year ending June 30, 1920	.	.	.	.	.	.	1,400,078 27
For fiscal year ending June 30, 1921	.	.	.	.	.	.	1,472,788 83
For fiscal year ending June 30, 1922	.	.	.	.	.	.	1,096,176 04
For fiscal year ending June 30, 1923	.	.	.	.	.	.	730,784 03
For fiscal year ending June 30, 1924	.	.	.	.	.	.	950,448 62
For fiscal year ending June 30, 1925	.	.	.	.	.	.	1,089,806 22
For fiscal year ending June 30, 1926	.	.	.	.	.	.	1,099,891 00
For fiscal year ending June 30, 1927	.	.	.	.	.	.	1,089,055 00
For fiscal year ending June 30, 1928	.	.	.	.	.	.	1,089,100 00
For fiscal year ending June 30, 1929	.	.	.	.	.	.	1,088,808 00
For fiscal year ending June 30, 1930	.	.	.	.	.	.	1,090,077 00
For fiscal year ending June 30, 1931	.	.	.	.	.	.	1,821,569 00
For fiscal year ending June 30, 1932	.	.	.	.	.	.	1,813,916 00
Total	.	.	.	.	.	.	\$17,012,196 00

The total amount received by Massachusetts from 1916 to November 30, 1930, is \$10,842,971.08.

Projects to the number of 32 have been prepared in addition to those shown in the report of the Department of Public Works for 1929. The total mileage included in the various Federal aid road projects in this state, from the commencement of work of this character to November 30, 1930, inclusive, is 782.396. The mileage in various counties is:—

Barnstable, 82.697 miles  
 Berkshire, 105.483 miles  
 Bristol, 78.560 miles  
 Dukes, 3.117 miles  
 Essex, 62.037 miles  
 Franklin, 35.572 miles

Hampden, 50.502 miles  
 Hampshire, 43.021 miles  
 Middlesex, 61.973 miles  
 Norfolk, 44.273 miles  
 Plymouth, 86.296 miles  
 Worcester, 128.865 miles

#### STATEMENT OF FEDERAL AID ROAD PROJECTS \* TO NOV. 30, 1930

No.	Town or City	Miles	Amount of Federal Aid involved	Amount received	Remarks
1	Acushnet-Fairhaven	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover	2.708	19,480 36	19,480 36	Work completed.
R2	Hanover	2.615	39,225 00		Work completed.
3	Malden-Melrose-Saugus	1.162	11,620 00	11,620 00	Work completed.
4	Danvers	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich	1.818	10,678 02	10,678 02	Work completed.
7	Cumington	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham	7.016	90,074 51	90,074 51	Work completed.
9	Saugus	3.122	65,472 27	65,472 27	Work completed.
10	Braintree	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich	2.173	21,851 50	21,851 50	Work completed.
13	Littleton-Groton	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg	2.797	55,940 00	55,940 00	Work completed.
19	Taunton	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock	3.637	72,483 32	72,483 32	Work completed.
22	Greenfield-Bernardston	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk	2.756	19,527 75	19,527 75	Work completed.
R24	Seekonk	2.756	41,340 00	41,340 00	Work completed.

\* All of these projects are now, or will be later, State highways.

## STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 (Continued)

No.	Town or City	Miles	Amount of Federal Aid involved	Amount received	Remarks
25	Billerica . . . . .	0.578	\$38,389 77	\$38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1 . . . . .	5.134	102,680 00	102,680 00	Work completed.
	Section 2 . . . . .	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham . . . . .	1.766	20,207 27	20,207 27	Work completed.
	Lanesborough:				
	Section A . . . . .	0.990	19,780 00	19,780 00	Work completed.
	Section B . . . . .	2.690	53,800 00	53,800 00	Work completed.
29	Ware . . . . .	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield . . . . .	4.206	84,120 00	84,120 00	Work completed.
31	Danvers-Peabody . . . . .	1.107	22,140 00	22,140 00	Work completed.
32	Huntington . . . . .	3.078	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A . . . . .	2.182	43,640 00	43,640 00	Work completed.
	Section B . . . . .	1.624	25,847 25	25,847 25	Work completed.
34	Dudley . . . . .	1.359	27,180 00	27,180 00	Work completed.
35	Haverhill-Methuen . . . . .	4.544	90,880 00	90,880 00	Work completed.
36	Eastham-Wellfleet-Provincetown:				
	Section A . . . . .	10.690	91,347 85	91,347 85	Work completed.
	Section B . . . . .	6.548	75,935 60	75,935 60	Work completed.
	Section C . . . . .	8.043	86,130 51	86,130 51	Work completed.
37	Egremont . . . . .	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers . . . . .	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford-				
	Lanesborough:				
	Section A . . . . .	0.020	9,123 64	9,123 64	Work completed.
	Section B . . . . .	3.323	65,980 00	65,980 00	Work completed.
	Section C . . . . .	4.590	68,850 00	68,850 00	Work completed.
40	East Brookfield . . . . .	1.011	20,220 00	20,220 00	Work completed.
41	Ashby . . . . .	1.250	22,141 03	22,141 03	Work completed.
42	Washington . . . . .	2.291	45,820 00	45,820 00	Work completed.
43	Leicester . . . . .	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A . . . . .	1.494	29,880 00	29,880 00	Work completed.
	Section B . . . . .	1.479	50,183 37	50,183 37	Work completed.
	Section C . . . . .	3.780	82,915 42	82,915 42	Work completed.
	Section D . . . . .	3.022	56,786 10		Work underway.
45	Palmer:				
	Sections A and C . . . . .	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A . . . . .	1.672	33,440 00	33,440 00	Work completed.
47	Barre-Oakham . . . . .	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg . . . . .	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A . . . . .	1.959	39,180 00	39,180 00	Work completed.
	Section B . . . . .	2.504	50,080 00	50,080 00	Work completed.
52	Oxford . . . . .	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West				
	Brookfield:				
	Section A . . . . .	0.890	17,800 00	17,800 00	Work completed.
	Section B . . . . .	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A . . . . .	0.829	16,580 00	16,580 00	Work completed.
	Section B . . . . .	2.691	53,820 00	53,820 00	Work completed.
55	Quincy . . . . .	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton . . . . .	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn . . . . .	3.042	59,131 31	59,131 31	Work completed.
58	Littleton . . . . .	1.345	26,900 00	26,900 00	Work completed.
59	Egremont . . . . .	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers . . . . .	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton . . . . .	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A . . . . .	3.009	60,180 00	60,180 00	Work completed.
	Section B . . . . .	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich . . . . .	4.489	89,780 00	89,780 00	Work completed.
64	Norwood . . . . .	1.065	21,300 00	21,300 00	Work completed.
65	North Adams . . . . .	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill . . . . .	2.657	53,049 24	53,049 24	Work completed.
70	Palmer . . . . .	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham . . . . .	1.846	36,940 00	36,940 00	Work completed.
72	Walpole . . . . .	3.078	61,560 00	61,560 00	Work completed.
73	Southwick . . . . .	6.879	111,757 95	111,757 95	Work completed.
74	Becket . . . . .	0.156	13,095 66	13,095 66	Work completed.
74	Becket . . . . .	0.189	10,988 45		Work completed.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A . . . . .	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk . . . . .	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac . . . . .	1.020	20,397 73	20,397 73	Work completed.
78	Burlington . . . . .	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington . . . . .	2.991	59,820 00	59,820 00	Work completed.
79B	Great Barrington . . . . .	0.028	10,098 38	8,522 99	Work completed.
80	Lee:				
	Section A . . . . .	0.909	18,180 00	18,180 00	Work completed.
	Section B . . . . .	0.283	4,245 00	4,245 00	Work completed.



## STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 (Continued)

No.	Town or City	Miles	Amount of Federal Aid involved	Amount received	Remarks
83	Pembroke . . . . .	2.121	\$31,815 00	\$31,815 00	Work completed.
84	Sterling-West Boylston . . . . .	3.491	51,974 04	51,974 04	Work completed.
85	Dalton-(Hinsdale Road):				
	Section A . . . . .	1.033	20,660 00	20,660 00	Work completed.
	Section B . . . . .	0.066	7,120 50	7,120 50	Work completed.
86	Gay Head . . . . .	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A . . . . .	1.056	21,120 00	21,120 00	Work completed.
	Section B . . . . .	0.038	5,429 50	5,429 50	Work completed.
88	Erving . . . . .	4.537	68,055 00		Work completed.
89	Easton:				
	Sections A and B . . . . .	3.540	70,800 00	70,800 00	Work completed.
	Section C . . . . .	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-East Brookfield . . . . .	1.227	25,324 95	25,324 95	Work completed.
91	Lowell . . . . .	0.977	19,537 87	19,537 87	Work completed.
93	Wilbraham . . . . .	0.208	67,506 06	67,506 06	Work completed.
94	Otis-Sandisfield . . . . .	7.565	122,931 25	122,931 25	Work completed.
95	Westfield . . . . .	0.148	12,677 08	12,677 08	Work completed.
96	Rochester-Wareham . . . . .	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield . . . . .	3.052	61,133 83	61,133 85	Work completed.
99	Gloucester . . . . .	1.191	19,353 75	19,353 75	Work completed.
100	Rutland . . . . .	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale . . . . .	0.297	4,455 00	4,455 00	Work completed.
101B	Hinsdale . . . . .	0.858	24,116 51	24,116 51	Work completed.
102A	Plainville-Wrentham . . . . .	3.254	48,810 00	48,810 00	Work completed.
103	Adams . . . . .	0.568	9,230 00	9,230 00	Work completed.
104	Milton . . . . .	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth . . . . .	1.438	28,760 00	28,760 00	Work completed.
106	Bourne . . . . .	0.522	35,002 00	35,002 00	Work completed.
107	Southampton . . . . .	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown . . . . .	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield . . . . .	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater . . . . .	0.109	24,580 87	24,580 87	Work completed.
111	Braintree . . . . .	0.371	7,200 00	7,200 00	Work completed.
112	North Attleborough-Attleborough . . . . .	3.278	65,560 00	65,560 00	Work completed.
113	Swansea . . . . .	0.692	11,245 00	11,245 00	Work completed.
113B	Swansea-Somerset . . . . .	3.503	64,439 74	64,439 74	Work completed.
114	Lenox . . . . .	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth . . . . .	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole . . . . .	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford . . . . .	1.377	27,540 00	27,540 00	Work completed.
117B	Chelmsford-Tyngsboro . . . . .	4.625	89,713 81	89,713 81	Work completed.
118A	Brookfield . . . . .	0.620	12,400 00	12,400 00	Work completed.
118B	Brookfield . . . . .	0.251	3,765 00	3,765 00	Work completed.
119A	Essex . . . . .	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville . . . . .	4.789	71,835 00	71,835 00	Work completed.
120B	Berkeley . . . . .	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkeley . . . . .	2.758	41,370 00	41,370 00	Work completed.
120D	Taunton . . . . .	0.862	12,930 00	12,930 00	Work completed.
121A	Abington . . . . .	0.947	17,887 34	17,887 34	Work completed.
121B	Bridgewater . . . . .	0.113	16,568 31	16,568 31	Work completed.
121C	Weymouth . . . . .	2.720	40,800 00	40,800 00	Work completed.
121D	East Bridgewater-Whitman . . . . .	2.000	30,000 00	30,000 00	Work completed.
121E	Abington . . . . .	1.088	14,770 42	14,770 42	Work completed.
122A	Barnstable . . . . .	0.066	18,711 51	18,711 51	Work completed.
122B	Barnstable-Mashpee . . . . .	2.482	36,349 09	36,349 09	Work completed.
122C	Falmouth-Mashpee . . . . .	8.137	132,939 21		Work completed.
122D	Barnstable . . . . .	5.643	84,645 00		PS&E sent
123A	Southampton . . . . .	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland . . . . .	0.189	30,296 68	30,296 68	Work completed.
124B	Marlborough . . . . .	1.626	24,390 00	24,390 00	Work completed.
125A	Wareham . . . . .	3.086	63,316 11	68,316 11	Work completed.
125B	Wareham . . . . .	2.761	41,415 00	41,415 00	Work completed.
127A	Holyoke . . . . .	4.136	62,040 00	62,040 00	Work completed.
127B	Easthampton-Northampton . . . . .	1.762	84,084 87		Work completed.
128A	Hinsdale . . . . .	0.066	8,598 63	8,598 63	Work completed.
128B	Hinsdale . . . . .	0.952	14,280 00	14,280 00	Work completed.
129A	Dighton-Somerset . . . . .	3.465	51,975 00	51,975 00	Work completed.
129B	Somerset . . . . .	4.340	65,511 29	65,511 29	Work completed.
130A	Auburn-Oxford . . . . .	4.208	63,120 00	63,120 00	Work completed.
131A	Wilbraham . . . . .	0.530	7,950 00	7,950 00	Work completed.
131B	Wilbraham . . . . .	1.012	15,180 00	15,180 00	Work completed.
132A	Duxbury-Kingston . . . . .	2.123	31,845 00	31,845 00	Work completed.
133A	North Andover . . . . .	0.615	9,225 00	9,225 00	Work completed.
133B	North Andover . . . . .	0.771	11,565 00	11,565 00	Work completed.
134A	Barre . . . . .	1.217	18,255 00	18,255 00	Work completed.
134B	Barre . . . . .	1.261	18,915 00	18,915 00	Work completed.
134C	Barre . . . . .	1.617	24,255 00		Work completed.
135A	Russell . . . . .	0.557	13,919 60	13,919 60	Work completed.
135B	Westfield-Russell . . . . .	3.607	54,075 00	54,075 00	Work completed.
135C	Russell . . . . .	3.291	54,052 37	53,059 55	Work completed.
135D	Russell-Huntington . . . . .	3.670	55,050 00	55,050 00	Work completed.
136A	Agawam . . . . .	1.331	19,965 00	19,965 00	Work completed.

## STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 (Continued)

No.	Town or City	Miles	Amount of Federal Aid involved	Amount received	Remarks
136B	Agawam . . . . .	1.515	\$22,725 00	\$22,725 00	Work completed
136C	Agawam . . . . .	1.000	15,000 00	15,000 00	Work completed.
137A	Sheffield . . . . .	0.170	22,710 05	22,710 05	Work completed.
137B	Sheffield . . . . .	1.532	22,980 00		PS&E sent
138A	Chester . . . . .	0.097	10,818 36	10,818 36	Work completed.
138B	Chester . . . . .	4.250	99,063 09		Work completed.
139A	Brimfield . . . . .	0.103	6,075 05	6,075 05	Work completed.
139B	Brimfield . . . . .	4.778	69,410 72	68,916 18	Work completed.
140A	Lenox-Lee . . . . .	3.519	52,785 00	52,785 00	Work completed.
140B	Lee . . . . .	0.057	26,620 13	26,620 13	Work completed.
141A	Williamsburg . . . . .	0.211	8,880 65	8,880 65	Work completed.
141B	Goshen-Williamsburg . . . . .	5.042	93,547 40	93,547 40	Work completed.
141C	Northampton-Williamsburg . . . . .	4.146	62,190 00	62,190 00	Work completed.
142A	Fitchburg-Westminster . . . . .	3.960	69,171 34	69,171 34	Work completed.
142B	Gardner-Westminster . . . . .	3.699	52,316 73	52,316 73	Work completed.
142C	Gardner-Templeton . . . . .	4.174	62,610 00		Work completed.
143	Fairhaven-Mattapoisett . . . . .	3.245	52,079 86	52,079 86	Work completed.
144A	Canton-Stoughton . . . . .	4.306	64,436 20	64,436 20	Work completed.
145A	Ashland-Holliston . . . . .	3.330	34,645 01	34,645 01	Work completed.
146A	Paxton . . . . .	1.783	26,745 00	26,745 00	Work completed.
146B	Paxton-Worcester . . . . .	4.930	73,950 00	73,950 00	Work completed.
147A	Lenox-Pittsfield . . . . .	2.349	35,235 00	35,235 00	Work completed.
148A	Raynham . . . . .	1.657	24,855 00	24,855 00	Work completed.
148B	Raynham-Taunton . . . . .	2.861	42,915 00	42,915 00	Work completed.
149A	Middleborough . . . . .	5.586	83,790 00	83,790 00	Work completed.
149B	Middleborough . . . . .	0.831	12,465 00		Work underway.
150A	Littleton-Westford . . . . .	1.985	29,775 00	29,775 00	Work underway.
150B	Westford . . . . .	2.660	39,900 00	39,900 00	Work underway.
151A&B	Swansea-Somerset . . . . .	0.464	89,138 06	89,138 06	Work underway.
152A	Dartmouth . . . . .	1.401	21,015 00	21,015 00	Work underway.
152B	Dartmouth . . . . .	2.858	42,870 00	42,870 00	Work completed.
152C	Westport . . . . .	4.634	69,510 00	69,510 00	Work completed.
153A	Southampton-Easthampton . . . . .	1.410	21,150 00	21,150 00	Work completed.
154A	Sturbridge . . . . .	2.503	37,545 00	37,545 00	Work completed.
155A	West Springfield . . . . .	0.549	8,235 00	8,235 00	Work completed.
156A	Orange . . . . .	1.058	15,870 00	15,870 00	Work completed.
156B	Orange . . . . .	2.607	39,105 00		Work completed.
156C	Athol-Orange . . . . .	1.544	32,659 27		Work underway.
157A	Sandisfield-Tolland . . . . .	0.644	34,803 50	34,803 50	Work completed.
R157A	Sandisfield-Tolland . . . . .	0.644	5,660 87		Work completed.
157B	Sandisfield . . . . .	0.473	32,037 28	32,037 28	Work completed.
157C	Sandisfield-Tolland . . . . .	3.038	45,570 00		Work completed.
157D	Sandisfield . . . . .	0.219	16,194 60		Work completed.
158A	Dalton . . . . .	0.430	22,087 67	22,087 67	Work completed.
159A	Seekonk-Rehoboth-Swansea . . . . .	1.899	49,876 52	49,876 52	Work completed.
159B	Seekonk . . . . .	2.251	33,765 00	33,765 00	Work completed.
159C	Swansea . . . . .	2.767	41,505 00	41,505 00	Work completed.
160A	Lenox-Lee-Stockbridge . . . . .	5.453	81,795 00	81,795 00	Work completed.
161A	Brockton-W. Bridgewater . . . . .	3.823	57,345 00	57,345 00	Work completed.
161B	Avon-Brockton . . . . .	2.201	33,015 00		Work underway.
162A	Holliston . . . . .	3.315	49,725 00	49,725 00	Work completed.
162B	Milford . . . . .	1.790	26,850 00	26,850 00	Work completed.
163A	Amherst . . . . .	0.052	3,787 09	3,787 09	Work completed.
163B	Amherst . . . . .	2.100	31,500 00	31,500 00	Work completed.
164A	Westminster-Winchendon . . . . .	0.750	48,475 74	26,555 45	Work completed.
164B	Westminster-Ashburnham . . . . .	3.607	54,105 00	54,105 00	Work completed.
164C	Ashburnham . . . . .	3.776	56,640 00	56,640 00	Work completed.
164D	Winchendon . . . . .	2.826	42,390 00	42,390 00	Work completed.
165A	Winchendon . . . . .	2.460	36,900 00	36,900 00	Work completed.
166	Becket-Otis . . . . .	6.043	99,077 00	99,077 00	Work completed.
168A	Deerfield . . . . .	3.043	45,645 00	45,645 00	Work completed.
169A	Merrimac-Amesbury . . . . .	3.397	50,955 00	50,955 00	Work completed.
171A	Chelmsford . . . . .	1.536	23,040 00	23,040 00	Work completed.
172A	Leominster-Sterling . . . . .	2.718	40,770 00	40,770 00	Work completed.
173A	Cheshire . . . . .	4.377	74,965 81	74,965 81	Work completed.
173B	Lanesboro . . . . .	1.742	26,130 00	26,130 00	Work completed.
174A	Marshfield . . . . .	4.533	67,995 00	67,995 00	Work completed.
175A	Sandwich . . . . .	0.217	22,181 26	22,181 26	Work completed.
175B	Orleans . . . . .	1.904	23,601 55	23,601 55	Work completed.
175C	Barnstable . . . . .	0.927	13,905 00	13,905 00	Work completed.
175D	Sandwich . . . . .	2.364	35,460 00		Work underway.
175E	Brewster-Orleans . . . . .	7.858	117,870 00		Work completed.
176A	Plymouth . . . . .	5.032	70,543 35	70,543 35	Work completed.
176B	Plymouth-Bourne . . . . .	2.948	44,220 00		PS&E Approved.
177A	Chatham . . . . .	3.964	48,588 18	48,588 18	Work completed.
177B	Orleans . . . . .	1.802	25,838 02	25,838 02	Work completed.
177C	Dennis . . . . .	3.219	48,258 37	38,734 30	Work completed.
178A	Chelmsford . . . . .	1.262	18,930 00	18,930 00	Work completed.
179A	Falmouth . . . . .	3.394	50,910 00	50,910 00	Work completed.
180A	Franklin-Wrentham . . . . .	3.125	46,875 00	46,875 00	Work completed.
180B	Bellingham-Franklin . . . . .	3.889	58,335 00	58,335 00	Work completed.
181A	Florida-North Adams . . . . .	2.818	42,270 00		Work completed.
181B	Florida . . . . .	2.736	41,040 00	41,040 00	Work completed.



STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 (*Continued*)

No.	Town or City	Miles	Amount of Federal Aid involved	Amount received	Remarks
181C	North Adams-Clarksburg	3.362	\$50,430 00	\$50,430 00	Work completed.
181D	Florida-Savoy	3.702	55,530 00		Work completed.
182A	Lunenburg	1.312	19,680 00	19,680 00	Work completed.
183A	Amesbury-Salisbury	1.922	28,830 00	28,830 00	Work completed.
183B	Amesbury	1.329	45,345 32	45,345 32	Work completed.
184A	Charlton	2.848	42,720 00	42,720 00	Work completed.
184B	Charlton-Sturbridge	5.623	84,345 00		Work completed.
185A	Buckland	1.245	18,675 00	18,675 00	Work completed.
185B	Charlemont	2.433	36,495 00		Work completed.
185C	Charlemont	0.421	54,688 84		Work underway.
186	Salisbury	2.405	36,075 00	36,075 00	Work completed.
187A	Bellingham	1.225	18,375 00	18,375 00	Work completed.
188A	Townsend	3.813	57,195 00	57,195 00	Work completed.
188B	Pepperell-Groton	3.368	50,520 00	50,520 00	Work completed.
189A	Marion-Wareham	0.582	82,770 63		Work completed.
189B	Mattapoisett	1.804	27,060 00	27,060 00	Work completed.
189C	Marion	4.554	68,310 00		Work completed.
189D	Wareham	1.344	20,160 00		PS&E approved.
190A	Becket	2.254	33,810 00	33,810 00	Work completed.
191A	Falmouth	5.896	81,094 43	81,094 43	Work completed.
191B	Falmouth	1.752	26,280 00	26,280 00	Work completed.
192A	Groveland	1.643	24,645 00	24,645 00	Work completed.
192B	Newburyport	1.745	26,175 00	26,175 00	Work completed.
193A	Hadley	1.985	25,821 78	25,821 78	Work completed.
193B	Hadley	2.662	31,715 99		Work completed.
194A	Athol-Phillipston-Templeton	4.738	71,070 00	71,070 00	Work completed.
195A	Mansfield-Norton	0.960	17,862 40	17,862 40	Work completed.
195B	Mansfield-Norton	2.617	39,255 00	39,255 00	Work completed.
196A	Millbury-Grafton	4.440	66,600 00	66,600 00	Work completed.
197	Plymouth	6.543	98,035 70	96,288 19	Work completed.
198A	Milford-Hopedale-Upton	4.418	66,270 00		Work completed.
199A	Newbury	0.303	163,208 90		Work completed.
200A	Rehoboth	1.875	28,125 00		Work completed.
200B	Taunton-Dighton-Rehoboth	5.690	87,403 64		Work completed.
201	Wilbraham	1.530	22,950 00		Work completed.
202A	Hanover-Pembroke	2.061	47,089 23		Work completed.
203	Natick-Wellesley	2.066	30,990 00		Work completed.
204	Erving	3.214	48,210 00		Work completed.
205	Dalton	0.913	23,981 28		Work completed.
206A	Billerica	1.898	35,451 68		Work completed.
207A	Bridgewater-Middleboro	10.474	179,296 63		Work completed.
208A	Waltham-Weston	0.280	64,831 45		Work underway.
209A	Milton-Quincy-Randolph	3.315	49,725 00		Work underway.
210A	Becket-Lee	7.192	107,880 00		Work underway.
211A	Northboro-Shrewsbury-Southboro	11.272	444,715 17		Work underway.
212	North Attleboro	2.123	46,890 51		Work underway.
213	Attleborough	1.455	71,636 00		Work underway.
214A	Tyngsborough	0.540	237,522 35		Work underway.
215A	Palmer-Monson	0.606	98,900 75		Work underway.
216A	Dedham	0.738	11,070 00		Work underway.
217	Chester-Huntington	3.781	62,326 87		PS&E sent.
Total		782.396	\$14,351,837 08	\$10,842,971 08	

## BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:—

## BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR

*Cities and Towns, Locality and Character of Structure*

- Adams—Grove Street over the Raceway; one 14-foot span, reinforced concrete slab.
- Ashfield—Conway Road over South Bend Brook; one 20-foot span, reinforced concrete slab.
- Athol—Orange Road over West Brook; one 26-foot span, reinforced concrete slab.
- Attleboro—Newport Avenue over the tracks of the New York, New Haven & Hartford Railroad; two 33.5-foot spans and one 60-foot span, steel stringers and reinforced concrete floor.

- Bellingham — Hartford Avenue at Mendon line, over Charles River; one 13-foot span, reinforced concrete slab.
- Blandford — Otis Road over Peeble Brook; two 20-foot spans and one 44-foot span, reinforced concrete beam and slab.
- Bridgewater — Bedford Street at Middleborough line over Taunton River; two 38-foot spans and one 45-foot span, reinforced concrete beam and slab.
- Dalton — Windsor Road over Waconah Brook; two 30-foot spans, reinforced concrete beam.
- Dighton — Providence Road over a brook; one 11-foot span, reinforced concrete slab.
- Dover — Willow Street at Needham line over Charles River; one 55-foot span, reinforced concrete arch.
- Dudley — Southbridge Road over Quinebaug River and Canal; three 58-foot spans, steel beam and reinforced concrete slab.
- Hanover — At Pembroke line over North River; one 71.5-foot span, reinforced concrete arch.
- Harwich — Lower County Road over Herring River; eight 17-foot spans, creosoted wood pile bridge.
- Hudson — Main Street over Assabet River; two 27-foot spans, reinforced concrete beam and slab.
- Ludlow — Putts Bridge at Springfield line over Chicopee River; two 52-foot spans, two 62-foot spans, deck plate girder spans, and one 150-foot span steel truss with reinforced concrete floors.
- Middleborough — Grove Street over Nemasket River; one 34-foot span, reinforced concrete beam and slab.
- Monson — Brimfield Road at Palmer line over Quaboag River; two 35-foot spans, reinforced concrete beam and slab.
- Newbury — Hanover Street over Little River; one 44-foot span, steel pony truss with reinforced concrete floor.
- Northborough — New Worcester Turnpike over proposed road; one 56-foot span, steel stringers with reinforced concrete floor.
- Palmer — Brimfield Road over the tracks of the Boston & Albany Railroad and State highway; one 58-foot span and one 83-foot span; steel stringers and steel plate girder with reinforced concrete floor.
- Peru — Middlefield Road over branch of Housatonic River; one 19-foot span, reinforced concrete slab.
- Royalston — Athol Road over Lawrence Brook; one 29-foot span, stone faced, reinforced concrete arch.
- Sandisfield — New Boston Road over Farmington River; one 77-foot span, steel pony truss with reinforced concrete floor.
- Shrewsbury — Worcester Turnpike over Boston & Worcester Street Railway Company tracks; length 97 feet, wood trestle with steel stringers.
- Shrewsbury — Worcester Turnpike over Grafton Street; one 35-foot span, reinforced concrete beam and slab.
- Southborough — Cordaville Road over Worcester Turnpike; two 60-foot spans, steel stringers with reinforced concrete floor.
- Tyngsborough — Nashua Road over Marshall Brook; one 29-foot span, reinforced concrete arch.
- Tyngsborough — Over the tracks of the Boston & Maine Railroad and Merrimack River; one 58.5-foot span, steel beams with concrete floor, and one 547-foot steel arch with concrete floor.
- Waltham — Weston Street at Weston line, over Stony Brook; reinforced concrete box culvert, 16-foot span.
- Wareham — Sawyer Road over Agawam River; one 30-foot span, reinforced concrete beam and slab.
- Westborough — Worcester Turnpike over Assabet River; one 38-foot span, steel stringers and concrete floor.
- Westborough — Worcester Turnpike over East Main Street; one 58-foot span, steel stringers and concrete floor.



Westborough — Worcester Turnpike over Milk Street; one 35-foot span, reinforced concrete beam and slab.

Williamstown — Pittsfield Road over Green River; one 42-foot span, reinforced concrete beam and slab.

# ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES COMPLETED IN 1930

## *Cities and Towns, Locality and Character of Work*

Becket — Jacob's Ladder Road over brook; reinforced concrete slab extension.

Becket — Jacob's Ladder Road over Shaw Pond Brook; reinforced concrete slab extension.

Becket — Jacob's Ladder Road over Ward Pond Brook; reinforced concrete slab extension.

Billerica — Burlington Road over Shawsheen River; reinforced concrete beam extension.

East Bridgewater — Bedford Street over Matfield River; reinforced concrete arch extension to stone arch.

Fairhaven — New Bedford line over New Bedford Harbor; piers repaired with gunite.

Gardner — Templeton Road over Kneeland Brook; reinforced concrete slab extension.

Gardner — Templeton Road over Wilder Brook; reinforced concrete slab extension.

Hanover — West Elm Street at Pembroke line over Indian Head River; stone faced, reinforced concrete arch extension of stone arch.

Lee — Jacob's Ladder Road over Green Water Pond Brook; reinforced concrete slab extension.

Lunenburg — Summer Street over Baker Brook; stone arch extension.

Natick — Framingham Road over outlet from Reservoir; reinforced concrete slab extension.

Natick — Framingham Road over outlet from Reservoir; reinforced concrete slab extension to stone arch culvert.

Newbury — Newburyport Turnpike over Parker River; reinforced concrete beam and slab extension.

North Attleborough — Elm Street over Ten Mile River; reinforced concrete slab extension.

North Attleborough — Jefferson Street over Ten Mile River; reinforced concrete slab extension.

North Attleborough — Orne Street over Ten Mile River; reinforced concrete slab extension.

North Attleborough — Providence Turnpike over Seven Mile River; reinforced concrete slab extension.

Orange — Erving Road over Mill Pond; reinforced concrete pile trestle extension.

Orange — Erving Road over Orcutt Brook; reinforced concrete beam extension.

Rehoboth — Providence Road over Palmer River; reinforced concrete slab extension.

Taunton — Providence Road over Segregansett River; reinforced concrete beam extension.

Templeton — Gardner Road over Otter River; reinforced concrete slab extension.

Tyngsborough — Dunstable Road over Mill Pond; reinforced concrete slab extension.

Wareham — Fearing Hill Road over Weweantic River; reinforced concrete slab extension.

West Springfield — Extension to culvert on State highway.

Windsor — Windsor Hill Road over Baldwin Brook; reinforced concrete beam extension.

## CONTEMPLATED BRIDGES AND STRUCTURES

*Plans, Studies or Estimates made**Cities and Towns, Locality and Character of Structure*

- Bernardston — Northfield Road over the tracks of the Boston and Maine Railroad; three 41-foot spans, reinforced concrete trestle bridge.
- Charlemont — Mohawk Trail over tracks of Boston and Maine Railroad; three 58-foot spans, steel stringer with reinforced concrete floor.
- Chester — Over Gold Mine Brook; one 26-foot span, reinforced concrete slab.
- Framingham — Over tracks of the Old Colony Division, New York, New Haven and Hartford Railroad and over Worcester Turnpike; one 50-foot span, steel stringer bridge.
- Groton — At Pepperell line over Nashua River; eight 20-foot spans, reinforced concrete pile bridge.
- Hingham — At Hull line over Weir River; solid fill and three 61-foot steel girder spans.
- Hinsdale — Washington Road over the tracks of Boston and Maine Railroad.
- Ipswich — Rowley Road over Boston and Maine Railroad.
- Millbury — Worcester by-pass over the tracks of New York, New Haven and Hartford Railroad, Main Street, and Blackstone River.
- Northborough — Boston Post Road over Assabet River; extension to stone arch, one 13-foot span.
- Northborough — Relocated Boston Post Road over aqueduct of Metropolitan District Water supply; one 46-foot span, reinforced concrete beam and slab.
- North Reading — State highway over tracks of Boston and Maine Railroad; one 31-foot span, steel stringer bridge.
- Palmer — Over Quaboag River; extension of one 50-foot span and two 20-foot spans, stone arch.
- Pepperell — Over Mill Pond outlet; extension of two 12.5-foot spans, reinforced concrete slab.
- Pepperell — Primus Station over tracks of Boston and Maine Railroad; three 25-foot spans, steel stringer bridge.
- Revere — Beach Street over tracks of Boston and Maine Railroad.
- Rowley — State highway over tracks of Boston and Maine Railroad at Bean Crossing; one 44-foot span.
- Salisbury — Elm Street over tracks of Boston and Maine Railroad; one 45-foot span.
- Sturbridge — Southbridge Road over Hobbs Brook; extension to 10-foot span stone arch.
- Weston — Near Stony Brook Station over tracks of Boston and Maine Railroad, Fitchburg Division; two 42-foot spans and one 64-foot span, steel girders and reinforced concrete floor. (Being built by Boston and Maine Railroad.)
- Worcester — Worcester by-pass under tracks of Boston and Albany Railroad.

*Examinations, Reports, Estimates, etc., at Request of Cities and Towns**Towns, Locality and Character of Work*

- Agawam — At West Springfield line over Westfield River; examination, report and estimate for repairs to two span steel truss.
- Billerica — Shawsheen Avenue over Shawsheen River at Wilmington line; Aqueduct bridge, examination, report and estimate for repairs and widening.
- Billerica — Whipple Street at Wilmington line over Shawsheen River; plan and specifications prepared for one 17-foot span, reinforced concrete slab.
- Bourne — Falmouth Road over Back River; estimate for reconstruction of bridge.
- Hudson — Main Street over Assabet River; examination and report on existing bridge and estimate for reconstruction.
- Lancaster — Mill Street over Nashua River; estimate for reconstruction.
- Marshfield — Beach Street over Cut River; inspection and report on strength of existing bridge and estimate for reconstruction.



*Examinations, Reports, Estimates, etc., by direction of the Department*

*Cities and Towns, Locality and Subject*

- Amesbury — Chain Bridge over Merrimack River at Newburyport line; examination and report on strength of bridge.
- Amesbury — Essex-Merrimack Bridge over Merrimack River; examination, report and estimate for equipment with power operation of draw and gates.
- Boston — Commonwealth Pier; report on strength of roof trusses.
- Boston — Commonwealth Pier Viaduct; examination and report on strength of sidewalk.
- Duxbury — Examination and estimate for repairs to Myles Standish monument.
- Framingham — Reformatory for Women; design for garage floor; and design of coal pocket.
- Middleborough — Grove Street over tracks of New York, New Haven and Hartford Railroad; examination, report and estimate for reconstruction of two bridges.
- Quincy — Fore River Bridge at Weymouth line; study and estimate for new bridge.
- Shrewsbury — Worcester Turnpike; design and estimate for retaining wall.
- Westfield — Main Street over Little River; examination, report and estimate for repairs to steel truss bridge.
- Special Commission on Bridges — Estimate of costs in the next ten years for reconstruction of bridges on important routes in State.

*Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313 of Acts of 1923*

- Fitchburg — Kimball Street over Nashua River; two 40-foot spans, steel stringers with reinforced concrete floor; approved July 25, 1930.
- Groton — West Groton Road over Nashua River; two 46-foot spans, reinforced concrete beam; approved June 23, 1930.
- Lancaster — Mill Street over Nashua River; two 35-foot spans, reinforced concrete beam; approved June 23, 1930.
- North Adams — West Main Street over Hoosic River; one 62-foot span, reinforced concrete arch; approved May 26, 1930.
- Peabody — Caller Street over North River; one 16-foot span, wood stringer with plank floor; approved June 3, 1930.
- Pittsfield — Newell Street over Housatonic River; one 75-foot span, steel plate girder; approved May 12, 1930.
- Scituate — Edward Foster Road over Scituate Harbor; two 15.4-foot spans and one 36.25-foot span, reinforced concrete beam; approved August 2, 1930.
- Taunton — Bay Street over Mill River; one 31-foot span, reinforced concrete beam; approved September 9, 1930.
- Taunton — Whittenton Street over Mill River; two 19.5-foot spans, reinforced concrete beam; approved May 9, 1930.

*Examinations, Studies, Estimates and Reports by direction of Acts and Resolves of the Legislature*

Chapter 42, Resolves of 1929. Report on "bridges, abutments and approaches which carry public highways over the location of the Southern New England Railroad Corporation and over the former location of the Hampden Railroad Corporation".

Chapter 406, Acts of 1930, New Bedford-Fairhaven Bridge.

The care of the bridge over the tracks of the New York, New Haven and Hartford Railroad and the Acushnet River between Fairhaven and New Bedford was transferred to the Department by the provisions of Chapter 406, Acts of 1930, on May 28, 1930. The Act directed that the bridge be made a State highway and the expenses of keeping the bridge in repair for travel and of operating the draw and of maintaining the bridge to be paid by the Commonwealth.

The construction of the bridge was begun in 1892 and was completed in 1900,

being first opened to traffic on October 11th of that year. There are thirteen spans of deck plate girders between New Bedford and Fish Island, five spans of deck plate girders and a 290-foot through truss draw span between Fish Island and Popes Island, and nine spans of deck plate girders between Popes Island and Fairhaven. There are 2,051 feet of bridge structure and 2,818 feet of solid fill, a total of 4,869 feet. The bridge measures 70 feet from center to center of fence rails. The first cost of the bridge was \$1,330,000, including land damages of \$160,000. Averaged over a period of years, the draw openings have numbered more than 2,900 annually.

- Plans are being made for extensive repairs to the bridge in 1931.
- Chapter 420, Acts of 1930 — Part 1, authorizing the following improvements:
- Boston — Bridges over the tracks of the Providence Division and the Needham Branch of the New York, New Haven and Hartford Railroad.
  - Canton — At Dedham and Westwood lines; bridge over Neponset River.
  - Needham — Bridge over the tracks of the Needham and Woonsocket Branch of the New York, New Haven and Hartford Railroad.
  - Revere — Overpass at or near junction of Revere Beach parkway and Broadway.
  - Westwood — Bridges over the tracks of the Providence Division and the Midland Division of the New York, New Haven and Hartford Railroad.
- Chapter 48, Resolves of 1930. Investigation for improvement of highway conditions at the following locations:
- Arlington, Medford and Somerville — Bridges over Mystic River.
  - Boston — Underpass and approaches at Harvard Bridge.
  - Boston and Cambridge — Grade separations at termini of River Street bridge, Western Avenue bridge and Larz Anderson bridge; and bridge and approaches at Gerry's Landing.
  - Cambridge — Traffic circle at Cottage Farm bridge.
  - Everett — Grade separation and traffic circle at junction of Revere Beach Parkway and Broadway and Main Street.
  - Revere — Bridges over tracks of the Boston and Maine Railroad and the Boston, Revere Beach and Lynn Railroad, in the extension of Squire Road to the Revere Beach Parkway.
  - Somerville — Grade separation at junction of Northern Traffic Artery and Washington Street.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending November 30, 1930, was 335. In 1929 the number of such openings was 386; in 1928 the number was 365; in 1927 the number was 200.

The total expenditure during the year was \$4,775.76.

The total expenditure from 1912 to November 30, 1930, inclusive, was \$148,087.36.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending November 30, 1930, was 1,812. In 1929 the number of such openings was 1,789; in 1928 the number was 1,982; in 1927 the number was 2,043.

The total expenditure during the year was \$15,243.90.

The total expenditure from 1912 to November 30, 1930, inclusive, was \$327,980.74.



# BRIDGE OVER THE ACUSHNET RIVER BETWEEN THE CITY OF NEW BEDFORD AND THE TOWN OF FAIRHAVEN

This bridge was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth. The Department took charge of this bridge on June 27, 1930.

The construction of the bridge was begun in 1892 and was completed in 1900, being first opened to traffic on October 11th of that year. There are thirteen spans of deck plate girders between New Bedford and Fish Island, five spans of deck plate girders and a 290-foot through truss draw span between Fish Island and Popes Island, and nine spans of deck plate girders between Popes Island and Fairhaven. There are 2,051 feet of bridge structure and 2,818 feet of solid fill, a total of 4,869 feet. The bridge measures 70 feet from center to center of fence rails. The first cost of the bridge was \$1,330,000, including land damages of \$160,000. Averaged over a period of years, the draw openings have numbered more than 2,900 annually.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending November 30, 1930, was 1,069.

The total expenditure during the year was \$10,065.56.

## CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, as revised by section 1, chapter 112, Acts of 1921, chapter 288, Acts of 1925, section 316, Acts of 1928, and section 4, chapter 343, Acts of 1929.)

During the year the Department has contracted for work to be done in the towns or cities named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length contracted for (Feet)
<i>Barnstable County</i>					
Dennis . . . . .	\$12,000 00	\$6,000 00	\$6,000 00	Bituminous concrete	6,590
Harwich . . . . .	20,000 00	10,000 00	5,000 00	Bridge and approaches	—
Provincetown . . . . .	7,000 00	7,000 00	7,000 00	Bituminous concrete	2,988
<i>Berkshire County</i>					
Adams . . . . .	8,000 00	8,000 00	—	Bridge and approaches	—
Alford . . . . .	1,000 00	500 00	500 00	Gravel	700
Alford . . . . .	300 00	—	300 00	Repairs	—
Becket . . . . .	1,000 00	500 00	1,000 00	Gravel	1,700
Becket . . . . .	2,000 00	1,000 00	1,000 00	Gravel	1,400
Cheshire . . . . .	5,000 00	2,700 00	3,000 00	Gravel	4,700
Clarksburg . . . . .	1,000 00	500 00	500 00	Gravel	3,000
Egremont . . . . .	3,450 00	1,725 00	1,725 00	Gravel	9,075
Florida . . . . .	4,000 00	4,000 00	—	Gravel	1,400
Great Barrington . . . . .	2,000 00	2,000 00	—	Gravel and tar	6,900
Great Barrington . . . . .	9,000 00	9,000 00	—	Bituminous macadam	2,719
Hancock . . . . .	300 00	250 00	—	Oiling	8,500
Hancock . . . . .	1,000 00	500 00	1,000 00	Gravel	650
Hancock . . . . .	1,000 00	300 00	—	Oiling	31,680
Hancock . . . . .	25,000 00	1,000 00	4,000 00	Bituminous macadam	5,500
Hinsdale . . . . .	2,000 00	1,000 00	1,000 00	Gravel	5,050
Hinsdale . . . . .	2,550 00	500 00	750 00	Gravel	1,800
Lanesborough . . . . .	4,000 00	2,000 00	2,000 00	Bituminous concrete	3,000
Lenox . . . . .	10,000 00	10,000 00	—	Bituminous macadam	2,560
Lenox . . . . .	10,000 00	10,000 00	—	Bituminous macadam	2,600
Monterey . . . . .	5,500 00	3,000 00	5,500 00	Bituminous macadam	2,200
Mount Washington . . . . .	1,500 00	500 00	1,000 00	Gravel	650
New Marlborough . . . . .	1,000 00	1,000 00	1,000 00	Gravel	900
New Marlborough . . . . .	6,000 00	4,000 00	3,000 00	Gravel and tar	18,000
North Adams . . . . .	15,000 00	45,000 00	—	Bituminous macadam and reinforced cement concrete	1,620
Otis . . . . .	1,000 00	500 00	1,000 00	Gravel	650
Richmond . . . . .	2,500 00	1,000 00	1,500 00	Gravel	1,600
Sandisfield . . . . .	4,000 00	2,000 00	2,000 00	Gravel	2,000
Savoy . . . . .	15,000 00	—	5,000 00	Gravel and tar	3,350
Sheffield . . . . .	2,000 00	1,000 00	1,000 00	Gravel	1,225
Stockbridge . . . . .	30,000 00	30,000 00	—	Bituminous macadam	8,300
Tyringham . . . . .	2,000 00	1,000 00	1,000 00	Bituminous macadam	850
Washington . . . . .	4,000 00	2,000 00	2,000 00	Gravel	3,750

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length contracted for (Feet)
Washington . . .	\$300 00	—	—	Bridge repairs . . .	—
West Stockbridge . . .	6,000 00	\$3,000 00	\$3,000 00	Gravel . . . . .	2,500
Williamstown . . .	2,000 00	4,000 00	—	Gravel . . . . .	1,625
Windsor . . . . .	1,000 00	500 00	500 00	Culvert . . . . .	—
Windsor . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	700
<i>Bristol County</i>					
Berkley . . . . .	2,000 00	2,000 00	—	Repairs and oiling . . .	29,700
Berkley . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	4,700
Dighton . . . . .	18,000 00	18,000 00	—	Bituminous macadam . .	6,500
Easton . . . . .	2,500 00	2,500 00	—	Repairs and oiling . . .	6,600
Freetown . . . . .	6,000 00	2,000 00	6,000 00	Gravel . . . . .	4,450
Freetown . . . . .	1,000 00	1,000 00	—	Repairs and oiling . . .	59,136
Norton . . . . .	3,000 00	1,000 00	2,000 00	Gravel . . . . .	2,050
Norton . . . . .	20,000 00	10,000 00	10,000 00	Bituminous macadam . .	5,750
Rehoboth . . . . .	6,000 00	6,000 00	6,000 00	Waterbound macadam . .	3,150
Swansea . . . . .	900 00	300 00	—	Bituminous macadam . .	—
Westport . . . . .	3,000 00	3,000 00	—	Bituminous macadam . .	1,430
<i>Dukes County</i>					
Chilmark . . . . .	63,000 00	4,500 00	22,500 00	Bituminous concrete . .	22,175
<i>Essex County</i>					
Andover . . . . .	8,500 00	10,000 00	7,000 00	Reinforced cement concrete	2,356
Andover . . . . .	400,000 00	75,000 00	(Phillips Academy)	Bituminous macadam and	24,256
North Andover . . .			7,500 00	reinforced cement concrete	3,700
Beverly . . . . .	7,500 00	15,000 00	2,000 00	Bituminous macadam . .	2,500
Boxford . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,700
Boxford . . . . .	2,500 00	2,500 00	2,500 00	Gravel . . . . .	8,086
Boxford . . . . .	40,800 00	7,200 00	24,000 00	Bituminous macadam . .	—
Boxford . . . . .	1,000 00	1,000 00	—	Repairs . . . . .	—
Danvers . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . .	2,425
Georgetown . . . . .	25,500 00	4,500 00	15,000 00	Bituminous macadam . .	6,447
Georgetown . . . . .	2,000 00	2,000 00	—	Repairs . . . . .	—
Groveland . . . . .	2,000 00	2,000 00	—	Repairs . . . . .	—
Hamilton . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . .	4,008
Haverhill . . . . .	15,000 00	30,000 00	15,000 00	Bituminous macadam . .	6,521
Ipswich . . . . .	2,000 00	2,000 00	—	Repairs . . . . .	—
Lawrence . . . . .	3,000 00	6,000 00	3,000 00	Bituminous macadam . .	2,340
Lynnfield . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . .	4,650
Marblehead . . . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam . .	4,709
Merrimac . . . . .	10,000 00	10,000 00	10,000 00	Gravel . . . . .	10,900
Merrimac . . . . .	2,500 00	2,500 00	—	Repairs . . . . .	—
Methuen . . . . .	4,000 00	5,000 00	4,000 00	Bituminous macadam . .	1,800
Methuen . . . . .	4,000 00	5,000 00	4,000 00	Bituminous macadam . .	2,500
Middleton . . . . .	2,500 00	2,500 00	—	Repairs . . . . .	—
Middleton . . . . .	4,500 00	4,500 00	4,500 00	Gravel . . . . .	4,250
Newbury . . . . .	5,500 00	5,500 00	5,000 00	Bridge and approaches . .	—
Newbury . . . . .	1,000 00	1,000 00	—	Repairs . . . . .	—
Rockport . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . .	4,620
Rockport . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . .	3,900
Rowley . . . . .	17,000 00	3,000 00	10,000 00	Bituminous macadam . .	4,800
Rowley . . . . .	1,000 00	1,000 00	—	Repairs . . . . .	—
Rowley . . . . .	500 00	500 00	—	Oiling . . . . .	11,000
Salem . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . .	1,505
Salisbury . . . . .	700 00	700 00	—	Repairs . . . . .	—
Swampscott . . . . .	3,000 00	3,000 00	3,000 00	Bituminous concrete . .	3,786
Topsfield . . . . .	1,000 00	1,000 00	—	Repairs . . . . .	—
Topsfield . . . . .	20,000 00	3,500 00	11,500 00	Bituminous macadam . .	6,000
Wenham . . . . .	3,300 00	3,300 00	3,300 00	Bituminous macadam . .	1,750
West Newbury . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	3,100
West Newbury . . . .	250 00	250 00	—	Repairs . . . . .	—
<i>Franklin County</i>					
Ashfield . . . . .	1,500 00	1,500 00	—	Gravel . . . . .	900
Ashfield . . . . .	1,500 00	1,500 00	—	Gravel . . . . .	900
Ashfield . . . . .	5,000 00	1,500 00	1,000 00	Gravel . . . . .	2,000
Buckland . . . . .	7,000 00	5,000 00	1,000 00	Bituminous macadam . .	3,000
Charlemont . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,200
Charlemont . . . . .	1,000 00	—	—	Repairs . . . . .	6,920
Charlemont . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	800
Colrain . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,700
Conway . . . . .	3,000 00	2,000 00	1,000 00	Gravel . . . . .	2,400
Deerfield . . . . .	4,000 00	3,000 00	1,000 00	Bituminous macadam . .	1,750
Erving . . . . .	3,000 00	2,000 00	1,000 00	Bituminous macadam . .	2,032
Gill . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,650
Greenfield . . . . .	20,000 00	20,000 00	2,000 00	Bituminous macadam . .	4,945
Hawley . . . . .	1,400 00	700 00	700 00	Gravel . . . . .	1,500
Hawley . . . . .	1,400 00	700 00	700 00	Gravel . . . . .	900
Heath . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,500
Leverett . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	4,200
Leyden . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,400
Monroe . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,000
Montague . . . . .	20,000 00	20,000 00	2,000 00	Bituminous macadam . .	11,918
New Salem . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	2,200
New Salem . . . . .	3,000 00	1,500 00	1,500 00	Repairs and oiling . . .	17,600
Northfield . . . . .	4,000 00	2,000 00	2,000 00	Bituminous macadam . .	2,950



COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
Orange . . . . .	\$1,000 00	\$1,000 00	\$500 00	Gravel . . . . .	1,600
Orange . . . . .	1,000 00	1,000 00	500 00	Repairs and oiling . . . . .	6,600
Orange . . . . .	700 00	700 00	—	Repairs and oiling . . . . .	7,313
Rowe . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,500
Shelburne . . . . .	2,000 00	2,000 00	1,000 00	Gravel . . . . .	1,800
Shutesbury . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,500
Sunderland . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,600
Warwick . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,400
Warwick . . . . .	1,200 00	1,200 00	—	Bridge and approaches . . . . .	—
Wendell . . . . .	3,000 00	2,000 00	1,000 00	Gravel . . . . .	1,800
Wendell . . . . .	1,500 00	1,500 00	—	Oiling . . . . .	11,088
Whately . . . . .	19,000 00	3,500 00	3,500 00	Bituminous macadam . . . . .	5,947
<i>Hampden County</i>					
Agawam . . . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . . . . .	7,020
Agawam . . . . .	1,250 00	2,500 00	1,250 00	Bituminous macadam . . . . .	915
Blandford . . . . .	20,500 00	4,500 00	20,500 00	Bridge and approaches . . . . .	—
Blandford . . . . .	2,000 00	1,000 00	2,000 00	Repairs and oiling . . . . .	4,250
Brimfield . . . . .	1,500 00	900 00	1,500 00	Bituminous macadam . . . . .	1,450
Chester . . . . .	5,000 00	1,000 00	5,000 00	Repairs and oiling . . . . .	16,960
Chester . . . . .	1,500 00	200 00	1,500 00	Gravel . . . . .	2,300
Chester . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	1,200
Chester . . . . .	3,500 00	1,000 00	3,500 00	Bituminous macadam . . . . .	3,500
Chicopee . . . . .	20,000 00	40,000 00	20,000 00	Gravel . . . . .	1,750
East Longmeadow . . . . .	2,500 00	2,500 00	2,500 00	Bituminous macadam . . . . .	10,775
Granville . . . . .	5,500 00	3,000 00	5,500 00	Gravel . . . . .	4,000
Hampden . . . . .	5,600 00	2,800 00	5,600 00	Gravel . . . . .	—
Hampden . . . . .	250 00	—	250 00	Bituminous macadam . . . . .	3,200
Holland . . . . .	466 00	466 00	466 00	Bituminous macadam . . . . .	100
Holland . . . . .	5,200 00	1,200 00	5,200 00	Repairs and oiling . . . . .	5,350
Ludlow . . . . .	25,000 00	31,250 00	25,000 00	Gravel . . . . .	2,750
Springfield . . . . .	—	43,750 00	—	Bridge . . . . .	—
Ludlow . . . . .	1,600 00	1,600 00	1,600 00	Gravel . . . . .	850
Monson . . . . .	3,000 00	2,000 00	3,000 00	Bituminous macadam . . . . .	1,100
Montgomery . . . . .	2,500 00	750 00	2,500 00	Gravel . . . . .	1,900
Palmer . . . . .	4,500 00	5,000 00	4,500 00	Gravel . . . . .	2,500
Palmer . . . . .	10,000 00	10,000 00	10,000 00	Gravel . . . . .	6,500
Russell . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	2,425
Southwick . . . . .	22,500 00	15,000 00	22,500 00	Gravel . . . . .	2,425
Springfield . . . . .	700 00	700 00	700 00	Bituminous macadam . . . . .	10,019
Tolland . . . . .	4,000 00	2,000 00	4,000 00	Bituminous macadam . . . . .	300
Tolland . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	3,100
Wales . . . . .	500 00	500 00	500 00	Gravel . . . . .	1,150
Wales . . . . .	3,000 00	1,500 00	3,000 00	Repairs and oiling . . . . .	1,700
West Springfield . . . . .	10,000 00	10,000 00	10,000 00	Gravel . . . . .	1,250
Westfield . . . . .	4,500 00	5,500 00	4,500 00	Bituminous macadam . . . . .	3,318
Westfield . . . . .	3,300 00	—	—	Gravel . . . . .	5,000
Westfield . . . . .	2,000 00	2,000 00	2,000 00	Reinforced cement concrete . . . . .	300
Westfield . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,000
Wilbraham . . . . .	4,000 00	4,000 00	4,000 00	Gravel . . . . .	3,000
<i>Hampshire County</i>					
Amherst . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	1,900
Belchertown . . . . .	800 00	—	500 00	Bridge and approaches . . . . .	—
Belchertown . . . . .	4,500 00	1,500 00	1,500 00	Repairs and oiling . . . . .	15,756
Chesterfield . . . . .	2,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	3,500
Chesterfield . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,200
Chesterfield . . . . .	1,000 00	—	—	Gravel . . . . .	900
Chesterfield . . . . .	1,500 00	500 00	1,000 00	Gravel . . . . .	350
Cumington . . . . .	3,000 00	1,500 00	1,500 00	Gravel . . . . .	988
Easthampton . . . . .	9,600 00	9,600 00	4,300 00	Gravel . . . . .	1,475
Enfield . . . . .	2,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	2,880
Enfield . . . . .	3,200 00	—	500 00	Repairs and oiling . . . . .	8,448
Goshen . . . . .	1,000 00	500 00	500 00	Repairs and oiling . . . . .	22,704
Goshen . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	775
Granby . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	800
Granby . . . . .	4,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	1,000
Greenwich . . . . .	3,500 00	2,000 00	1,500 00	Bituminous macadam . . . . .	2,200
Hatfield . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . . . .	26,400
Huntington . . . . .	6,000 00	500 00	1,500 00	Bituminous macadam . . . . .	1,200
Huntington . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,950
Middlefield . . . . .	200 00	100 00	200 00	Gravel . . . . .	650
Middlefield . . . . .	800 00	300 00	500 00	Gravel . . . . .	750
Middlefield . . . . .	700 00	—	300 00	Gravel . . . . .	550
Middlefield . . . . .	2,000 00	500 00	800 00	Gravel . . . . .	700
Middlefield . . . . .	1,000 00	—	—	Gravel . . . . .	700
Northampton . . . . .	2,000 00	6,000 00	2,000 00	Grading . . . . .	350
Northampton . . . . .	5,000 00	5,000 00	3,000 00	Bituminous macadam . . . . .	2,200
Pelham . . . . .	1,000 00	500 00	500 00	Bituminous macadam . . . . .	4,200
Pelham . . . . .	6,800 00	1,200 00	4,000 00	Gravel . . . . .	1,300
Plainfield . . . . .	9,000 00	1,000 00	3,000 00	Bituminous macadam . . . . .	2,300
South Hadley . . . . .	20,000 00	10,000 00	10,000 00	Gravel . . . . .	2,100
South Hadley . . . . .	1,800 00	1,800 00	1,800 00	Bituminous macadam . . . . .	6,000
South Hadley . . . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	1,050
Ware . . . . .	4,000 00	2,000 00	2,000 00	Repairs . . . . .	750
					11,101

COUNTIES AND TOWNS	CONTRIBUTIONS			Type of Road	Length contracted for (Feet)
	State	Town	County		
Westhampton . . .	\$1,500 00	\$750 00	\$750 00	Gravel . . .	500
Worthington . . .	1,000 00	500 00	500 00	Gravel . . .	500
Worthington . . .	3,000 00	1,500 00	1,500 00	Gravel . . .	1,300
<i>Middlesex County</i>					
Acton . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	4,300
Acton . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	4,870
Acton . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . .	65,472
Arlington . . .	10,000 00	10,000 00	10,000 00	Reinforced cement concrete . . .	2,800
Ashby . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . .	17,952
Ashland . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . .	950
Ashland . . .	1,000 00	4,500 00	1,000 00	Repairs and oiling . . .	15,312
Ashland . . .	1,000 00	1,000 00	1,000 00	Bridge . . .	-
Ayer . . .	11,700 00	11,700 00	11,700 00	Gravel . . .	2,000
Ayer . . .	800 00	800 00	800 00	Gravel . . .	15,250
Ayer . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	6,500
Ayer . . .	1,500 00	6,500 00	1,500 00	Gravel . . .	250
Bedford . . .	2,000 00	2,000 00	2,000 00	Grading . . .	1,000
Bedford . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . .	635
Bedford . . .	1,500 00	1,500 00	1,500 00	Bituminous macadam . . .	1,600
Bedford . . .	1,000 00	500 00	1,000 00	Gravel . . .	1,500
Bedford . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	41,712
Billerica . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . .	10,000
Billerica . . .	2,000 00	2,000 00	2,000 00	Gravel . . .	3,500
Billerica . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	14,100
Billerica . . .	2,000 00	2,000 00	2,000 00	Gravel . . .	1,800
Boxborough . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . .	30,624
Boxborough . . .	400 00	200 00	400 00	Gravel . . .	930
Boxborough . . .	850 00	850 00	850 00	Gravel . . .	610
Burlington . . .	7,400 00	3,700 00	7,400 00	Repairs and oiling . . .	30,624
Burlington . . .	2,000 00	2,000 00	1,000 00	Bituminous macadam . . .	3,700
Burlington . . .	1,333 00	1,333 00	1,333 00	Repairs and oiling . . .	44,880
Burlington . . .	666 00	666 00	666 00	Gravel . . .	2,000
Carlisle . . .	1,500 00	1,500 00	1,500 00	Gravel . . .	1,000
Carlisle . . .	1,600 00	800 00	1,600 00	Repairs and oiling . . .	60,192
Carlisle . . .	2,500 00	2,500 00	2,500 00	Gravel . . .	2,000
Chelmsford . . .	4,000 00	4,000 00	4,000 00	Gravel . . .	4,183
Chelmsford . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . .	680
Chelmsford . . .	4,000 00	4,000 00	4,000 00	Gravel . . .	1,800
Chelmsford . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . .	2,825
Concord . . .	8,000 00	8,000 00	8,000 00	Gravel . . .	8,976
Concord . . .	9,500 00	9,500 00	9,500 00	Bituminous macadam . . .	4,861
Concord . . .	500 00	600 00	500 00	Bituminous macadam . . .	3,352
Dracut . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . .	1,000
Dunstable . . .	2,000 00	1,000 00	2,000 00	Gravel . . .	2,800
Dunstable . . .	1,750 00	1,750 00	1,750 00	Gravel . . .	2,500
Framingham . . .	6,000 00	12,000 00	6,000 00	Repairs and oiling . . .	43,824
Framingham . . .	4,000 00	8,000 00	4,000 00	Bituminous macadam . . .	4,580
Framingham . . .	7,500 00	15,000 00	7,500 00	Gravel . . .	10,850
Groton . . .	8,500 00	8,500 00	8,500 00	Bituminous macadam . . .	7,500
Groton . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . .	2,000
Groton . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	3,500
Holliston . . .	1,666 00	1,666 00	1,666 00	Repairs and oiling . . .	27,984
Holliston . . .	1,500 00	1,500 00	1,500 00	Gravel . . .	2,200
Hopkinton . . .	4,000 00	2,000 00	4,000 00	Repairs and oiling . . .	39,600
Hopkinton . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . .	1,800
Hudson . . .	9,000 00	9,000 00	9,000 00	Repairs and oiling . . .	60,192
Hudson . . .	6,000 00	6,000 00	6,000 00	Reinforced cement concrete . . .	1,930
Lexington . . .	20,000 00	25,000 00	20,000 00	Bridge and approaches . . .	-
Lexington . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . .	5,430
Lincoln . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	18,000
Littleton . . .	1,800 00	1,800 00	1,800 00	Repairs and oiling . . .	36,960
Littleton . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	42,768
Littleton . . .	2,000 00	1,000 00	2,000 00	Gravel . . .	1,400
Lowell . . .	1,500 00	1,500 00	1,500 00	Gravel . . .	1,100
Lowell . . .	7,000 00	7,000 00	-	Bituminous macadam . . .	650
Marlborough . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . .	2,000
Marlborough . . .	10,500 00	10,500 00	10,500 00	Gravel . . .	3,000
Natick . . .	4,500 00	4,500 00	4,500 00	Bituminous macadam . . .	3,655
Natick . . .	12,000 00	12,000 00	12,000 00	Gravel . . .	4,250
North Reading . . .	2,500 00	2,500 00	2,500 00	Reinforced cement concrete . . .	1,950
North Reading . . .	2,500 00	2,500 00	2,500 00	Bituminous macadam . . .	2,000
Pepperell . . .	5,000 00	5,000 00	5,000 00	Repairs and oiling . . .	49,104
Pepperell . . .	3,000 00	3,000 00	3,000 00	Repairs and oiling . . .	60,192
Reading . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	3,500
Sherborn . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . .	2,000
Sherborn . . .	9,160 00	4,580 00	9,160 00	Repairs and oiling . . .	66,528
Sherborn . . .	840 00	420 00	840 00	Bituminous macadam . . .	4,800
Sherborn . . .	2,000 00	1,000 00	2,000 00	Gravel . . .	1,500
Stoneham . . .	26,000 00	26,000 00	26,000 00	Gravel . . .	3,000
Stow . . .	1,500 00	1,500 00	1,500 00	Reinforced cement concrete . . .	4,935
Sudbury . . .	4,000 00	4,000 00	4,000 00	Repairs and oiling . . .	41,184
Tewksbury . . .	7,500 00	1,500 00	7,500 00	Repairs and oiling . . .	79,728
Tewksbury . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . .	3,224
Tewksbury . . .	3,500 00	3,500 00	3,500 00	Repairs and oiling . . .	12,144
Tewksbury . . .				Bituminous macadam . . .	2,600



COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
Tewksbury . . .	\$2,000 00	\$2,000 00	\$2,000 00	Gravel . . .	4,000
Townsend . . .	512 12	3,487 88	2,000 00	Repairs and oiling . .	30,888
Tyngsborough . . .	2,000 00	1,000 00	2,000 00	Gravel . . .	2,300
Tyngsborough . . .	2,000 00	1,000 00	2,000 00	Gravel . . .	2,500
Tyngsborough . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . .	48,576
Waltham . . .	7,500 00	15,000 00	7,500 00	Bituminous macadam . .	3,234
Watertown . . .	5,000 00	10,000 00	5,000 00	Bituminous macadam . .	2,608
Wayland . . .	1,581 22	4,000 00	2,000 00	Repairs and oiling . .	38,544
Westford . . .	5,000 00	5,000 00	5,000 00	Repairs and oiling . .	84,480
Westford . . .	4,000 00	4,000 00	4,000 00	Gravel . . .	6,410
Westford . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	2,500
Westford . . .	2,500 00	2,500 00	2,500 00	Gravel . . .	5,000
Westford . . .	1,000 00	1,000 00	1,000 00	Gravel . . .	2,000
Weston . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . .	4,450
Wilmington . . .	4,500 00	2,750 00	4,500 00	Repairs and oiling . .	19,536
				Bituminous macadam . .	702
				Gravel . . .	3,000
Wilmington . . .	2,000 00	2,000 00	2,000 00	Gravel . . .	2,000
Woburn . . .	3,500 00	7,500 00	3,500 00	Bituminous macadam . .	2,050
Woburn . . .	3,500 00	7,500 00	3,500 00	Bituminous macadam . .	2,500
<i>Nantucket County</i>					
Nantucket . . .	10,000 00	10,000 00	—	Bituminous concrete . .	3,970
<i>Norfolk County</i>					
Avon . . .	8,000 00	8,000 00	8,000 00	Bituminous macadam . .	3,490
Bellingham . . .	2,650 00	1,325 00	1,325 00	Repairs and oiling . .	23,700
Bellingham . . .	7,000 00	3,500 00	3,500 00	Bridge and approaches . .	—
		(in conjunction with town of	Mendon—See Worcester County)		
Canton . . .	9,000 00	9,000 00	9,000 00	Bituminous macadam . .	4,700
Dover . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . .	1,664
Dover . . .	15,000 00	15,000 00	15,000 00	Bridge and approaches . .	—
Needham . . .		15,000 00			
Foxborough . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . .	5,950
Foxborough . . .	2,000 00	2,000 00	—	Repairs . . .	—
Franklin . . .	4,000 00	4,000 00	4,000 00	Gravel . . .	3,900
Franklin . . .	8,000 00	8,000 00	8,000 00	Gravel . . .	8,100
Holbrook . . .	7,000 00	7,000 00	7,000 00	Bituminous macadam . .	2,626
Medfield . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam . .	2,450
Medway . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . .	1,300
Medway . . .	600 00	600 00	600 00	Culvert repairs . . .	—
Medway . . .	2,000 00	2,000 00	2,000 00	Bridge and approaches . .	—
Medway . . .	211 40	211 40	—	Repairs . . .	—
Millis . . .	7,000 00	7,000 00	7,000 00	Bituminous macadam . .	2,960
Millis . . .	4,250 00	4,250 00	4,250 00	Gravel . . .	3,850
Millis . . .	750 00	750 00	750 00	Gravel . . .	850
Norfolk . . .	2,700 00	900 00	1,800 00	Gravel . . .	1,952
Norfolk . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . .	21,648
Norfolk . . .	3,300 00	1,100 00	2,200 00	Grading . . .	1,700
Sharon . . .	5,000 00	5,000 00	5,000 00	Gravel . . .	3,525
Sharon . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . .	2,433
Stoughton . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . .	1,066
Stoughton . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . .	450
				Grading . . .	5,455
Westwood . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam . .	4,835
Wrentham . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . .	2,125
<i>Plymouth County</i>					
Bridgewater . . .	3,000 00	2,000 00	2,000 00	Gravel . . .	3,200
Carver . . .	4,000 00	2,000 00	—	Bituminous concrete . .	3,000
Halifax . . .	31,100 00	10,000 00	10,700 00	Bituminous concrete . .	12,750
				Oiling . . .	7,850
Hanover . . .	2,000 00	—	2,000 00	Bridge and approach . .	—
Hanson . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam . .	4,753
Hingham . . .	17,000 00	17,000 00	17,000 00	Bituminous macadam . .	8,630
Lakeville . . .	1,500 00	2,000 00	—	Gravel . . .	2,914
Lakeville . . .	15,000 00	7,500 00	7,500 00	Bituminous macadam . .	4,362
Marshfield . . .	20,000 00	10,000 00	10,000 00	Gravel . . .	17,955
Middleborough . . .	5,000 00	7,500 00	5,000 00	Gravel . . .	9,000
Middleborough . . .	5,000 00	—	—	Gravel . . .	3,000
Pembroke . . .	12,000 00	6,000 00	6,000 00	Bituminous macadam . .	3,200
Plympton . . .	3,500 00	1,000 00	2,500 00	Gravel . . .	2,666
Rochester . . .	12,000 00	6,000 00	6,000 00	Gravel . . .	10,500
Rochester . . .	4,500 00	4,500 00	—	Gravel . . .	5,315
Wareham . . .	11,500 00	12,500 00	7,500 00	Bituminous concrete . .	5,900
West Bridgewater . . .	3,000 00	1,500 00	1,500 00	Bituminous concrete . .	1,242
West Bridgewater . . .	6,000 00	3,000 00	3,000 00	Bituminous macadam . .	3,493
<i>Worcester County</i>					
Ashburnham . . .	1,200 00	750 00	1,050 00	Repairs and oiling . .	18,000
Athol . . .	4,500 00	7,000 00	4,500 00	Rein. cement concrete and bituminous macadam . .	1,600
Barre . . .	1,200 00	1,200 00	1,200 00	Gravel . . .	11,088
Berlin . . .	5,500 00	3,500 00	5,500 00	Gravel . . .	3,400
Berlin . . .	2,000 00	1,000 00	2,000 00	Repairs and oiling . .	36,432
Blackstone . . .	2,000 00	2,000 00	2,000 00	Gravel . . .	1,500

COUNTIES AND TOWNS	CONTRIBUTIONS		County	Type of Road	Length contracted for (Feet)
	State	Town			
Bolton . . . .	\$5,000 00	\$1,000 00	\$5,000 00	Bituminous macadam . .	1,000
Boylston . . . .	150 00	—	150 00	Bituminous macadam . .	340
Boylston . . . .	1,000 00	500 00	1,000 00	Repairs and oiling . .	37,658
Brookfield . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . .	1,700
Brookfield . . . .	4,000 00	2,000 00	4,000 00	Bituminous macadam . .	1,590
Charlton . . . .	8,000 00	4,000 00	8,000 00	Bituminous macadam . .	3,300
Dana . . . .	2,500 00	1,000 00	2,500 00	Repairs and oiling . .	50,424
Dana . . . .	2,500 00	1,000 00	2,500 00	Gravel . . . .	1,750
Gardner . . . .	5,000 00	10,000 00	5,000 00	Bituminous macadam . .	3,800
Gardner . . . .	1,000 00	2,000 00	1,000 00	Drainage . . . .	—
Hardwick . . . .	3,000 00	3,000 00	3,000 00	{ Grading . . . .	1,800
Harvard . . . .	42,500 00	7,500 00	25,000 00	{ Bituminous macadam . .	1,200
Harvard . . . .	1,000 00	500 00	1,000 00	Bituminous macadam . .	11,662
Holden . . . .	7,000 00	6,000 00	8,000 00	Repairs and oiling . .	17,150
Hubbardston . . . .	4,000 00	2,000 00	4,000 00	Bituminous macadam . .	2,319
Hubbardston . . . .	1,000 00	500 00	1,000 00	Gravel . . . .	1,150
Hubbardston . . . .	4,500 00	4,500 00	4,500 00	Repairs and oiling . .	42,240
Leicester . . . .	4,500 00	4,500 00	4,500 00	Gravel . . . .	2,750
Leicester . . . .	4,500 00	4,500 00	4,500 00	Gravel . . . .	3,000
Lunenburg . . . .	40,000 00	6,000 00	20,000 00	Bituminous macadam . .	4,095
Mendon . . . .	2,200 00	1,000 00	2,200 00	Gravel . . . .	1,850
Mendon . . . .	2,500 00	1,000 00	2,500 00	Bridge and approaches . .	—
(in conjunction with town of Bellingham—see Norfolk County)					
Mendon . . . .	1,000 00	500 00	1,000 00	Repairs and oiling . .	29,040
Millbury . . . .	15,000 00	18,000 00	12,000 00	Reinforced cement concrete . .	2,376
Millville . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . .	1,900
New Braintree . . . .	500 00	500 00	500 00	Repairs and oiling . .	22,704
New Braintree . . . .	3,000 00	1,500 00	3,000 00	Gravel . . . .	2,550
North Brookfield . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . .	2,000
Oakham . . . .	3,000 00	1,900 00	3,000 00	Gravel . . . .	2,200
Oakham . . . .	500 00	—	500 00	Gravel . . . .	—
Oxford . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . .	2,200
Paxton . . . .	1,200 00	600 00	1,200 00	Repairs and oiling . .	15,840
Paxton . . . .	2,000 00	1,000 00	2,000 00	{ Grading . . . .	950
Paxton . . . .	1,000 00	500 00	—	{ Gravel . . . .	980
Petersham . . . .	9,500 00	5,500 00	9,500 00	{ Culvert . . . .	none
Phillipston . . . .	10,500 00	2,500 00	10,500 00	{ Gravel . . . .	4,862
Princeton . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . .	4,812
Princeton . . . .	1,200 00	400 00	1,200 00	Gravel . . . .	2,100
Princeton . . . .	400 00	200 00	400 00	Repairs and oiling . .	22,704
Royalston . . . .	9,250 00	4,000 00	9,250 00	Repairs and oiling . .	4,300
Royalston . . . .	500 00	500 00	500 00	Bridge and approaches . .	—
Rutland . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . .	500
Shrewsbury . . . .	8,000 00	8,000 00	8,000 00	Gravel . . . .	24,575
Spencer . . . .	5,800 00	5,000 00	5,800 00	Bituminous macadam . .	3,792
Sterling . . . .	1,600 00	400 00	1,600 00	Gravel . . . .	3,950
Sterling . . . .	14,000 00	7,000 00	14,000 00	Repairs and oiling . .	25,892
Sterling . . . .	600 00	300 00	600 00	Gravel . . . .	4,885
Sutton . . . .	4,000 00	—	4,000 00	Repairs and oiling . .	800
Templeton . . . .	2,000 00	2,000 00	2,000 00	{ Concrete structures . .	100
Templeton . . . .	1,000 00	1,000 00	1,000 00	{ Bituminous macadam . .	139
Templeton . . . .	2,000 00	2,000 00	2,000 00	{ Bituminous macadam . .	1,399
Upton . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . .	14,256
Warren . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . .	12,672
West Boylston . . . .	10,000 00	10,000 00	10,000 00	Bridge . . . .	—
West Brookfield . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . .	2,400
Westborough . . . .	10,000 00	10,000 00	10,000 00	Gravel . . . .	7,250
Westborough . . . .	10,000 00	9,000 00	11,000 00	Gravel . . . .	1,750
Westminster . . . .	2,000 00	800 00	2,000 00	Bituminous macadam . .	5,650
Westminster . . . .	3,000 00	1,500 00	3,000 00	Bituminous macadam . .	4,300
Westminster . . . .	3,000 00	1,500 00	3,000 00	Repairs and oiling . .	23,831
Winchendon . . . .	20,000 00	20,000 00	20,000 00	Gravel . . . .	2,400
				Gravel . . . .	2,500
				Gravel . . . .	11,690

# EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were:—

Barnstable, \$19,984.36	Hampshire, \$149,945.18
Berkshire, \$254,651.80	Middlesex, \$445,000.44
Bristol, \$75,428.22	Nantucket, \$10,756.50
Dukes, \$69,927.48	Norfolk, \$162,440.53
Essex, \$352,772.60.	Plymouth, \$181,123.74
Franklin, \$162,128.25	Worcester, \$365,862.56
Hampden, \$216,827.46	Total, \$2,466,849.12

Details of the foregoing expenditures follow:—

*Barnstable County.*—Dennis, \$12,962.50; Provincetown, \$7,021.86.

*Berkshire County.*—Adams, \$7,679.22; Alford, \$1,241.25; Becket, \$3,971.98;



Cheshire, \$17,048.29; Clarksburg, \$1,241.25; Egremont, \$4,282.24; Florida, \$4,964.90; Great Barrington, \$12,361.47; Hancock, \$32,600.59; Hinsdale, \$3,258.16; Lanesborough, \$4,964.75; Lenox, \$14,200.52; Monterey, \$6,826.82; Mount Washington, \$1,861.83; New Marlborough, \$8,688.65; North Adams, \$30,481.95; Otis, \$7,486.31; Peru, \$15,426.49; Richmond, \$3,102.93; Sandisfield, \$4,964.90; Savoy, \$18,187.06; Sheffield, \$2,482.50; Stockbridge, \$26,289.87; Tyringham, \$2,480.36; Washington, \$5,336.40; West Stockbridge, \$7,447.35; Williamstown, \$3,291.26; Windsor, \$2,482.50.

*Bristol County.* — Berkley, \$7,501.20; Dighton, \$18,093.78; Easton, \$3,990.10; Freetown, \$8,330.42; Norton, \$19,660.49; Rehoboth, \$7,148.85; Taunton, \$6,979.68; Westport, \$3,723.70.

*Dukes County.* — Chilmark, \$63,916.02; West Tisbury, \$6,011.46.

*Essex County.* — Amesbury, \$3,528.57; Andover, \$104,344.49; Beverly, \$10,057.29; Boxford, \$31,627.29; Danvers, \$5,610.26; Essex, \$12,871.11; Georgetown, \$19,075.13; Hamilton, \$12,125.85; Haverhill, \$15,349.82; Lawrence, \$3,723.70; Lynnfield, \$10,328.37; Marblehead, \$10,336.68; Merrimac, \$10,413.79; Methuen, \$9,929.85; Middleton, \$5,585.53; Newbury, \$6,687.54; North Andover, \$11,151.10; Rockport, \$21,649.59; Rowley, \$19,150.56; Salem, \$3,701.68; Salisbury, \$581.44; Swampscott, \$3,586.80; Topsfield, \$15,448.58; Wenham, \$2,984.64; West Newbury, \$2,922.94.

*Franklin County.* — Ashfield, \$15,713.14; Charlemont, \$6,195.32; Colrain, \$2,482.45; Conway, \$4,413.41; Deerfield, \$4,964.95; Erving, \$3,346.70; Gill, \$6,788.88; Greenfield, \$20,068.50; Hawley, \$3,475.47; Heath, \$2,482.45; Leverett, \$1,241.25; Leyden, \$2,482.45; Monroe, \$2,482.45; Montague, \$23,271.12; New Salem, \$6,206.15; Northfield, \$4,964.36; Orange, \$3,351.31; Rowe, \$2,482.45; Shelburne, \$2,482.43; Shutesbury, \$2,481.34; Sunderland, \$2,482.45; Warwick, \$10,940.05; Wendell, \$5,585.53; Whately, \$21,743.64.

*Hampden County.* — Agawam, \$22,849.91; Blandford, \$23,427.34; Chester, \$13,536.92; Chicopee, \$17,389.74; East Longmeadow, \$3,103.07; Granville, \$6,826.77; Hampden, \$7,261.20; Holland, \$5,636.00; Holyoke, \$15,448.92; Ludlow, \$9,336.01; Monson, \$3,199.24; Montgomery, \$3,103.07; Palmer, \$8,845.82; Russell, \$1,861.82; Southwick, \$24,404.76; Springfield, \$5,652.40; Tolland, \$6,206.15; Wales, \$3,362.54; Westfield, \$19,433.91; West Springfield, \$10,976.92; Wilbraham, \$4,964.95.

*Hampshire County.* — Amherst, \$9,528.47; Belchertown, \$6,577.53; Chesterfield, \$6,505.91; Cummington, \$4,618.25; Easthampton, \$11,077.99; Enfield, \$6,454.38; Goshen, \$3,831.61; Granby, \$7,447.45; Greenwich, \$4,344.32; Hatfield, \$2,481.95; Huntington, \$8,688.01; Middlefield, \$6,230.94; Northampton, \$8,681.57; Pelham, \$8,322.18; Plainfield, \$13,127.78; South Hadley, \$20,214.56; Ware, \$4,964.95; Westhampton, \$1,861.83; Williamsburg, \$518.94; Worthington, \$14,466.56.

*Middlesex County.* — Acton, \$10,298.86; Arlington, \$9,156.46; Ashby, \$1,241.20; Ashland, \$3,227.19; Ayer, \$12,741.00; Bedford, \$4,344.32; Billerica, \$8,068.02; Boxborough, \$2,792.76; Burlington, \$14,148.82; Carlisle, \$5,940.02; Chelmsford, \$11,144.08; Concord, \$21,250.09; Dracut, \$3,723.70; Dunstable, \$4,654.64; Framingham, \$21,410.78; Groton, \$19,669.95; Holliston, \$4,930.15; Hopkinton, \$7,447.40; Hudson, \$15,027.28; Lexington, \$27,416.50; Lincoln, \$1,241.20; Littleton, \$5,957.92; Lowell, \$6,206.15; Marlborough, \$15,524.05; Natick, \$16,113.46; Newton, \$750.67; North Reading, \$6,206.15; Pepperell, \$13,524.65; Reading, \$3,669.91; Sherborn, \$17,802.85; Stoneham, \$29,391.77; Stow, \$1,861.83; Sudbury, \$4,964.95; Tewksbury, \$12,888.73; Townsend, \$6,157.91; Tyngsborough, \$4,344.32; Wakefield, \$990.22; Waltham, \$6,621.29; Watertown, \$13,930.06; Wayland, \$4,150.56; Westford, \$19,100.90; Weston, \$22,773.14; Wilmington, \$10,550.48; Winchester, \$3,864.99; Woburn, \$7,779.06.

*Nantucket County.* — Nantucket, \$10,756.50.

*Norfolk County.* — Avon, \$6,710.54; Bellingham, \$9,440.72; Canton, \$10,546.28; Dover, \$5,404.11; Foxborough, \$13,146.87; Franklin, \$15,714.67; Holbrook, \$11,449.18; Medfield, \$10,705.84; Medway, \$14,023.71; Millis, \$13,281.55; Needham, \$7,403.93; Norfolk, \$9,596.50; Sharon, \$11,885.35; Stoughton, \$6,463.41; Wellesley, \$750.67; Westwood, \$13,584.87; Wrentham, \$2,332.33.

*Plymouth County.* — Bridgewater, \$3,723.70; Carver, \$4,964.95; Halifax, \$38,-

602.31; Hanover, \$1,430.07; Hanson, \$9,946.55; Hingham, \$30,449.62; Lakeville, \$18,098.80; Marshfield, \$15,243.12; Middleborough, \$7,912.99; Pembroke, \$11,-069.42; Plympton, \$4,344.27; Rochester, \$14,172.88; Wareham, \$10,145.16; West Bridgewater, \$11,019.90.

*Worcester County.*—Ashburnham, \$1,489.48; Athol, \$6,793.19; Barre, \$1,-489.48; Berlin, \$11,735.49; Blackstone, \$824.70; Bolton, \$6,615.81; Boylston, \$9,698.01; Brookfield, \$5,192.30; Charlton, \$7,401.79; Clinton, \$2,525.06; Dana, \$6,206.15; Gardner, \$6,844.53; Hardwick, \$3,614.40; Harvard, \$33,491.50; Holden, \$4,075.16; Hubbardston, \$1,293.62; Lancaster, \$4,662.03; Leicester, \$5,927.67; Lunenburg, \$49,082.93; Mendon, \$5,794.31; Milford, \$2,114.40; Millbury, \$12,-136.66; Millville, \$3,246.60; New Braintree, \$3,599.38; North Brookfield, \$1,-725.77; Oakham, \$4,287.57; Oxford, \$11,128.65; Paxton, \$3,210.90; Petersham, \$5,664.81; Phillipston, \$14,487.16; Princeton, \$5,992.97; Royalston, \$9,560.28; Rutland, \$4,964.95; Shrewsbury, \$9,631.85; Spencer, \$5,695.31; Sterling, \$12,-575.73; Sutton, \$4,701.62; Templeton, \$5,506.22; Upton, \$162.23; Warren, \$4,-367.61; West Boylston, \$9,877.03; West Brookfield, \$2,045.96; Westborough, \$26,589.18; Westminster, \$9,577.36; Winchendon, \$18,254.75.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS,  
IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended with reference to section 26 by section 1 of chapter 120, Acts of 1922, by chapter 315, Acts of 1926, and by chapter 171, Acts of 1930.)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Barnstable County:</i>			
Brewster . . . . .	40	\$4,000 00	\$4,000 00
Dennis . . . . .	80	8,000 00	8,000 00
Eastham . . . . .	41	4,100 00	3,075 00
Mashpee . . . . .	27	2,700 00	2,025 00
Sandwich . . . . .	67	6,700 00	5,025 00
Truro . . . . .	28	2,800 00	2,100 00
Wellfleet . . . . .	35	3,500 00	3,500 00
<i>Berkshire County:</i>			
Alford . . . . .	20	2,000 00	800 00
Becket . . . . .	58	5,800 00	2,320 00
Cheshire . . . . .	42	4,200 00	4,200 00
Egremont . . . . .	32	3,200 00	2,400 00
Florida . . . . .	43	4,300 00	3,225 00
Hancock . . . . .	30	3,000 00	1,500 00
Hinsdale . . . . .	35	3,500 00	2,625 00
Lanesborough . . . . .	39	3,900 00	2,925 00
Monterey . . . . .	53	5,300 00	2,120 00
Mount Washington . . . . .	20	2,000 00	500 00
New Ashford . . . . .	9	900 00	360 00
New Marlborough . . . . .	85	8,500 00	3,400 00
Otis . . . . .	48	4,800 00	1,200 00
Peru . . . . .	37	3,700 00	555 00
Richmond . . . . .	34	3,400 00	1,700 00
Sandisfield . . . . .	79	7,900 00	1,185 00
Savoy . . . . .	56	5,600 00	840 00
Sheffield . . . . .	77	7,700 00	3,850 00
Tyringham . . . . .	25	2,500 00	1,250 00



Counties and Towns	Miles of Road	Allotments	
		State	Town
Washington . . . . .	51	\$5,100 00	\$765 00
West Stockbridge . . . . .	36	3,600 00	2,700 00
Windsor . . . . .	66	6,600 00	990 00
<i>Bristol County:</i>			
Berkley . . . . .	42	4,200 00	2,100 00
Freetown . . . . .	47	4,700 00	4,700 00
Norton . . . . .	55	5,500 00	6,875 00
Raynham . . . . .	45	4,500 00	4,500 00
Rehoboth . . . . .	109	10,900 00	5,450 00
Swansea . . . . .	54	5,400 00	8,100 00
<i>Dukes County:</i>			
Chilmark . . . . .	14	1,400 00	1,400 00
West Tisbury . . . . .	13	1,300 00	1,625 00
<i>Essex County:</i>			
Boxford . . . . .	52	5,200 00	2,600 00
Essex . . . . .	21	2,100 00	3,150 00
Georgetown . . . . .	34	3,400 00	4,250 00
Groveland . . . . .	29	2,900 00	4,350 00
Merrimac . . . . .	31	3,100 00	4,650 00
Middleton . . . . .	30	3,000 00	3,750 00
Newbury . . . . .	36	3,600 00	5,400 00
Rowley . . . . .	31	3,100 00	3,875 00
Topsfield . . . . .	38	3,800 00	5,700 00
West Newbury . . . . .	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield . . . . .	83	8,300 00	3,320 00
Bernardston . . . . .	40	4,000 00	3,000 00
Buckland . . . . .	45	4,500 00	6,750 00
Charlemont . . . . .	49	4,900 00	3,675 00
Colrain . . . . .	84	8,400 00	4,200 00
Conway . . . . .	75	7,500 00	1,875 00
Gill . . . . .	36	3,600 00	2,700 00
Hawley . . . . .	49	4,900 00	735 00
Heath . . . . .	53	5,300 00	795 00
Leverett . . . . .	38	3,800 00	1,520 00
Leyden . . . . .	40	4,000 00	600 00
Monroe . . . . .	18	1,800 00	2,700 00
Northfield . . . . .	66	6,600 00	4,950 00
New Salem . . . . .	64	6,400 00	1,600 00
Rowe . . . . .	41	4,100 00	2,050 00
Shelburne . . . . .	48	4,800 00	6,000 00
Shutesbury . . . . .	40	4,000 00	1,000 00
Sunderland . . . . .	34	3,400 00	3,400 00
Warwick . . . . .	55	5,500 00	1,375 00
Wendell . . . . .	48	4,800 00	2,400 00
Whately . . . . .	40	4,000 00	3,000 00
<i>Hampden County:</i>			
Blandford . . . . .	83	8,300 00	2,075 00
Brimfield . . . . .	59	5,900 00	2,950 00
Chester . . . . .	66	6,600 00	4,950 00
Granville . . . . .	73	7,300 00	1,825 00
Hampden . . . . .	34	3,400 00	1,700 00
Holland . . . . .	30	3,000 00	450 00
Montgomery . . . . .	27	2,700 00	675 00
Southwick . . . . .	50	5,000 00	3,750 00

Counties and Towns	Miles of Road	Allotments	
		State	Town
Tolland . . . . .	41	\$4,100 00	\$615 00
Wales . . . . .	25	2,500 00	1,250 00
Wilbraham . . . . .	43	4,300 00	6,450 00
<i>Hampshire County:</i>			
Belchertown . . . . .	115	11,500 00	4,600 00
Chesterfield . . . . .	59	5,900 00	885 00
Cummington . . . . .	49	4,900 00	1,225 00
Enfield . . . . .	37	3,700 00	1,480 00
Goshen . . . . .	28	2,800 00	1,120 00
Hadley . . . . .	58	5,800 00	7,250 00
Granby . . . . .	48	4,800 00	2,400 00
Greenwich . . . . .	39	3,900 00	975 00
Huntington . . . . .	40	4,000 00	4,000 00
Hatfield . . . . .	46	4,600 00	6,900 00
Middlefield . . . . .	38	3,800 00	570 00
Pelham . . . . .	40	4,000 00	1,600 00
Plainfield . . . . .	49	4,900 00	735 00
Prescott . . . . .	39	3,900 00	585 00
Southampton . . . . .	56	5,600 00	2,240 00
Westhampton . . . . .	50	5,000 00	750 00
Williamsburg . . . . .	43	4,300 00	4,300 00
Worthington . . . . .	73	7,300 00	1,095 00
<i>Middlesex County</i>			
Acton . . . . .	58	5,800 00	7,250 00
Ashby . . . . .	57	5,700 00	2,850 00
Ashland . . . . .	38	3,800 00	5,700 00
Bedford . . . . .	35	3,500 00	5,250 00
Boxborough . . . . .	23	2,300 00	920 00
Burlington . . . . .	32	3,200 00	4,800 00
Carlisle . . . . .	43	4,300 00	1,720 00
Dunstable . . . . .	36	3,600 00	900 00
Holliston . . . . .	50	5,000 00	7,500 00
Hopkinton . . . . .	66	6,600 00	6,600 00
Lincoln . . . . .	40	4,000 00	6,000 00
Littleton . . . . .	42	4,200 00	5,250 00
North Reading . . . . .	29	2,900 00	4,350 00
Pepperell . . . . .	68	6,800 00	8,500 00
Sherborn . . . . .	43	4,300 00	4,300 00
Shirley . . . . .	46	4,600 00	5,750 00
Stow . . . . .	45	4,500 00	3,375 00
Sudbury . . . . .	61	6,100 00	6,100 00
Tewksbury . . . . .	56	5,600 00	7,000 00
Townsend . . . . .	70	7,000 00	5,250 00
Tyngsborough . . . . .	41	4,100 00	3,075 00
<i>Norfolk County</i>			
Bellingham . . . . .	42	4,200 00	6,300 00
Medfield . . . . .	40	4,000 00	6,000 00
Medway . . . . .	44	4,400 00	6,600 00
Millis . . . . .	39	3,900 00	5,850 00
Norfolk . . . . .	40	4,000 00	4,000 00
Plainville . . . . .	34	3,400 00	4,250 00
Wrentham . . . . .	43	4,300 00	6,450 00
<i>Plymouth County</i>			
Carver . . . . .	67	6,700 00	6,700 00
Halifax . . . . .	33	3,300 00	3,300 00



Counties and Towns	Miles of Road	Allotments	
		State	Town
Hanson . . . . .	36	\$3,600 00	\$5,400 00
Lakeville . . . . .	45	4,500 00	3,375 00
Norwell . . . . .	47	4,700 00	4,700 00
Pembroke . . . . .	47	4,700 00	5,875 00
Plympton . . . . .	30	3,000 00	1,500 00
Rochester . . . . .	49	4,900 00	3,675 00
West Bridgewater . . . . .	39	3,900 00	5,850 00
<i>Worcester County</i>			
Ashburnham . . . . .	75	7,500 00	5,625 00
Berlin . . . . .	39	3,900 00	2,925 00
Bolton . . . . .	53	5,300 00	2,650 00
Boylston . . . . .	41	4,100 00	2,050 00
Brookfield . . . . .	36	3,600 00	3,600 00
Charlton . . . . .	112	11,200 00	4,480 00
Dana . . . . .	43	4,300 00	1,720 00
Douglas . . . . .	70	7,000 00	5,250 00
East Brookfield . . . . .	19	1,900 00	2,375 00
Hardwick . . . . .	96	9,600 00	7,200 00
Harvard . . . . .	57	5,700 00	5,700 00
Holden . . . . .	77	7,700 00	9,625 00
Hubbardston . . . . .	75	7,500 00	1,875 00
Lancaster . . . . .	57	5,700 00	7,125 00
Lunenburg . . . . .	66	6,600 00	4,950 00
Mendon . . . . .	36	3,600 00	2,700 00
New Braintree . . . . .	49	4,900 00	1,225 00
North Brookfield . . . . .	69	6,900 00	6,900 00
Northborough . . . . .	47	4,700 00	4,700 00
Oakham . . . . .	45	4,500 00	1,125 00
Oxford . . . . .	65	6,500 00	8,125 00
Paxton . . . . .	29	2,900 00	2,175 00
Petersham . . . . .	71	7,100 00	5,325 00
Phillipston . . . . .	41	4,100 00	1,025 00
Princeton . . . . .	72	7,200 00	2,880 00
Royalston . . . . .	67	6,700 00	2,680 00
Rutland . . . . .	68	6,800 00	3,400 00
Southborough . . . . .	48	4,800 00	7,200 00
Sterling . . . . .	72	7,200 00	5,400 00
Sturbridge . . . . .	68	6,800 00	3,400 00
Sutton . . . . .	84	8,400 00	4,200 00
Templeton . . . . .	63	6,300 00	7,875 00
Upton . . . . .	60	6,000 00	4,500 00
West Boylston . . . . .	35	3,500 00	4,375 00
West Brookfield . . . . .	53	5,300 00	3,975 00
Westminster . . . . .	77	7,700 00	3,850 00

## EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various counties were: —

Barnstable, \$36,139.36	Hampshire, \$97,677.54
Berkshire, \$91,925.61	Middlesex, \$111,187.56
Bristol, \$38,427.12	Norfolk, \$29,716.20
Dukes, \$3,139.22	Plymouth, \$41,959.94
Essex, \$37,105.40	Worcester, \$235,150.18
Franklin, \$115,887.86	
Hampden, \$52,642.72	Total, \$890,958.71

Details of the foregoing expenditures follow:—

*Barnstable County.*—Brewster, \$4,639.64; Dennis, \$9,016.13; Eastham, \$4,-799.63; Mashpee, \$2,916.96; Sandwich, \$7,187.62; Truro, \$3,212.66; Wellfleet, \$4,366.72.

*Berkshire County.*—Alford, \$2,183.36; Becket, \$5,224.56; Cheshire, \$4,530.47; Egremont, \$3,383.50; Florida, \$3,493.20; Hancock, \$4,287.97; Hinsdale, \$3,805.09; Lanesborough, \$3,571.39; Monterey, \$4,990.64; Mount Washington, \$1,310.02; New Ashford, \$1,005.88; New Marlborough, \$8,499.49; Otis, \$4,541.39; Peru, \$2,805.23; Richmond, \$3,129.63; Sandisfield, \$7,973.41; Savoy, \$5,270.03; Sheffield, \$3,347.98; Tyringham, \$2,751.03; Washington, \$5,030.84; West Stockbridge, \$3,680.33; Windsor, \$7,110.17.

*Bristol County.*—Berkley, \$4,585.06; Freetown, \$5,130.89; Norton, \$6,004.24; Raynham, \$4,912.55; Rehoboth, \$11,899.31; Swansea, \$5,895.07.

*Dukes County.*—Chilmark, \$1,685.68; West Tisbury, \$1,453.54.

*Essex County.*—Boxford, \$5,676.73; Essex, \$2,324.93; Georgetown, \$3,711.71; Groveland, \$3,165.88; Merrimac, \$3,384.21; Middleton, \$3,275.03; Newbury, \$3,-995.11; Rowley, \$3,384.21; Topsfield, \$4,148.38; West Newbury, \$4,039.21.

*Franklin County.*—Ashfield, \$8,542.39; Bernardston, \$4,339.43; Buckland, \$4,339.43; Charlemont, \$5,485.69; Colrain, \$9,251.66; Conway, \$9,523.80; Gill, \$4,783.61; Hawley, \$5,403.82; Heath, \$6,386.32; Leverett, \$4,148.38; Leyden, \$4,366.72; Monroe, \$1,965.02; New Salem, \$6,631.95; Northfield, \$7,641.76; Rowe, \$4,557.76; Shelburne, \$4,748.80; Shutesbury, \$4,366.72; Sunderland, \$4,121.09; Warwick, \$6,004.24; Wendell, \$4,912.55; Whately, \$4,366.72.

*Hampden County.*—Blandford, \$7,510.75; Brimfield, \$6,437.64; Chester, \$6,-300.59; Granville, \$7,969.26; Hampden, \$3,411.51; Holland, \$2,692.94; Montgomery, \$2,685.54; Southwick, \$5,431.10; Tolland, \$2,847.65; Wales, \$2,661.52; Wilbraham, \$4,694.22.

*Hampshire County.*—Belchertown, \$12,772.65; Chesterfield, \$6,522.79; Cummington, \$5,349.23; Enfield, \$4,175.67; Goshen, \$3,056.70; Granby, \$5,240.06; Greenwich, \$4,257.55; Hadley, \$6,413.62; Hatfield, \$5,103.61; Huntington, \$4,-093.80; Middlefield, \$4,053.46; Palham, \$4,366.72; Plainfield, \$5,321.94; Prescott, \$4,421.30; Southampton, \$6,113.41; Westhampton, \$5,049.01; Williamsburg, \$4,721.51; Worthington, \$6,644.51.

*Middlesex County.*—Acton, \$6,331.74; Ashby, \$6,222.58; Ashland, \$4,148.38; Bedford, \$3,820.88; Boxborough, \$3,438.79; Burlington, \$3,493.37; Carlisle, \$4,-694.22; Dunstable, \$3,930.05; Holliston, \$5,458.40; Hopkinton, \$7,205.08; Lincoln, \$4,366.72; Littleton, \$4,585.06; North Reading, \$3,165.87; Pepperell, \$8,951.77; Sherborn, \$4,694.22; Shirley, \$5,021.73; Stow, \$4,912.55; Sudbury, \$7,860.10; Tewksbury, \$6,113.40; Townsend, \$7,641.76; Tyngsborough, \$5,130.89.

*Norfolk County.*—Bellingham, \$4,585.06; Medfield, \$4,366.72; Medway, \$3,734.23; Millis, \$4,257.55; Norfolk, \$4,366.72; Plainville, \$3,711.70; Wrentham, \$4,694.22.

*Plymouth County.*—Carver, \$7,397.12; Halifax, \$3,147.38; Hanson, \$3,676.87; Lakeville, \$4,995.93; Norwell, \$5,197.07; Pembroke, \$5,147.54; Plympton, \$3,-275.02; Rochester, \$4,953.44; West Bridgewater, \$4,169.57.

*Worcester County.*—Ashburnham, \$7,861.30; Berlin, \$5,390.39; Bolton, \$5,785.91; Boylston, \$4,475.88; Brookfield, \$4,288.94; Charlton, \$12,606.56; Dana, \$4,694.22; Douglas, \$7,641.76; East Brookfield, \$2,125.49; Hardwick, \$10,471.99; Harvard, \$6,222.58; Holden, \$8,052.08; Hubbardston, \$7,678.71; Lancaster, \$6,-222.58; Lunenburg, \$7,205.08; Mendon, \$4,372.39; New Braintree, \$5,349.23; North Brookfield, \$7,501.29; Northborough, \$5,130.89; Oakham, \$4,598.79; Oxford, \$7,095.92; Paxton, \$3,113.26; Petersham, \$7,750.92; Phillipston, \$4,171.00; Princeton, \$7,860.10; Royalston, \$7,314.25; Rutland, \$8,010.55; Southborough, \$5,240.06; Sterling, \$7,860.09; Sturbridge, \$7,499.63; Sutton, \$9,170.11; Templeton, \$7,171.34; Upton, \$6,528.56; West Boylston, \$3,820.88; West Brookfield, \$6,461.52; Westminster, \$8,405.93.



CONTRACTS FOR THE CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS  
IN ANTICIPATION OF APPROPRIATIONS

Chapter 5, Acts of 1930, amending section 27, chapter 29, General Laws, provided as follows: —

“No public officer or board shall incur a new or unusual expense, make a permanent contract, increase a salary or employ a new clerk, assistant or other subordinate unless a sufficient appropriation to cover the expense thereof has been made by the general court, except that prior to the effective date of the general appropriation act the department of public works, in anticipation of appropriations therefor, may, in any fiscal year, with the approval of the governor and council, make contracts for the construction and reconstruction of state highways binding the commonwealth to an amount not in excess of twenty-five per cent of the amount appropriated during the preceding fiscal year for the same purposes, such contracts to provide for the completion of the work thereunder within the fiscal year in which they are made.”

In November, 1930, preparations were made for advertising contracts under the provisions of section 27, chapter 29, General Laws, as amended by chapter 387, Acts of 1923, and by chapter 5, Acts of 1930, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding \$1,575,000 for construction, and \$1,412,500 for reconstruction of State highways, these amounts being twenty-five per cent of the appropriations of \$6,300,000 and \$5,650,000, respectively, for the fiscal year ending November 30, 1930. The making of these contracts as aforesaid was approved by the Governor and Council Nov. 19, 1930.

HIGHWAYS IMPROVEMENTS AUTHORIZED BY SPECIAL ACT

*Repairing Highway Bridges Over Location of Southern New England Railroad*  
Chapter 308, Acts of 1930, provides, in part, as follows: —

“Section 2. Section 1 of this act shall not take effect unless its provisions are accepted by vote of the board of directors of said corporation, and an attested copy of such vote is filed with the state secretary, within fourteen days after the passage of this act, nor unless within said fourteen days there shall be paid into the treasury of the commonwealth by said corporation, or on its behalf, the sum of twenty-five thousand dollars for expenditure by the department of public works in or on account of the repair and maintenance of bridges which carry public highways over the railroad location of said corporation within this commonwealth, such payment to be accompanied by delivery to the State Treasurer of a bond executed as surety by a surety company authorized to do business in the Commonwealth and securing the payment, upon demand of said department, of an additional sum for said purposes up to and but not exceeding twenty-five thousand dollars. The payment of said first-named sum of twenty-five thousand dollars and the delivery of said bond shall be evidenced by a certificate of the state treasurer, which shall be filed with the state secretary. Said department is hereby authorized and directed to expend in the repair and maintenance of such bridges, without appropriation by the general court, so much of any sums paid to it for such purposes under authority hereof as may be necessary therefor.

Section 3. Any liability of the Southern New England Railroad Corporation under general or special laws for the repair and maintenance of any bridges which carry public highways over the location of its railroad within the commonwealth shall continue unimpaired notwithstanding the provisions of section 2 or any action thereunder.”

On Aug. 12, 1930, in accordance with the provisions of said chapter 308, Acts of 1930, a contract was made with Maurice M. Devine for repairing about 31 highway bridges over the Southern New England Railroad in the towns of Brimfield, Dudley, Uxbridge, Sturbridge, Webster, Millville, Southbridge, Douglas and Blackstone. The proposal amounted to \$20,220.00. Work completed Nov. 19, 1930. Expenditure during 1930, \$23,071.70.

#### PERMITS TO COMMON CARRIERS OF PASSENGERS BY MOTOR VEHICLES

In accordance with sections 48A and 48B, chapter 280, Acts of 1925, which amends chapter 159, General Laws, 116 permits were granted during the year.

#### THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW (Sections 29-33, chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33 inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reservation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

*Applications, Licenses and Permits.*—Licenses were granted to 34 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 970 applications received for permits for the erection of advertising signs, 604 permits have been granted; and 151 permits were granted on applications filed previous to 1930. 189 applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 42 applications for permits were cancelled.

Of 3,512 renewal applications sent to those whose permits were to expire June 30, 1930, 3,192 were returned to the Department requesting renewal; and 264 requested that permits be cancelled. The number of renewal applications approved, to be in force until June 30, 1931, was 3,576. The total number of permits in force November 30, 1930, was 3,976.

*Receipts and Expenditures.*—The total receipts for the year ending Nov. 30, 1930, were \$18,811.34, and the expenditures were \$14,605.31.

*Removal of Signs.*—A newly established "Sign Patrol" consisting of some small trucks completely equipped for the work, have removed 32,000 signs during the year in addition to 10,000 removed by other agents of the Department, under authority of section 30-A, chapter 93, General Laws, from within the highways and from private property.

*Injunction.*—On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the rules and regulations for the control and restriction of the billboards, signs and other devices promulgated under date of January 24, 1924. This injunction is still in force and will be until the case is settled in Court.

*Hearings.*—Hearings were given to officials of Belmont, Brookline, Easton, Framingham, Holyoke, Lexington, Saugus, Stoneham, Watertown, Winchester, Winthrop; to two licensed advertisers; to one property owner and to two sets of petitioners representing abutters and interested parties.



## CONTRACT PRICES DEC. 1, 1929, TO NOV. 30, 1930

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Abington . . .	Powers Bros. . . . .	\$0 60	-	\$2 00	\$1 00	\$15 00	\$0 10	-
Acton . . . .	J. J. Watkins . . . . .	0 44	\$0 45	2 50	0 95	18 00	-	-
Adams . . . .	D. S. McGrath . . . . .	0 75	0 85	0 75	1 50	17 60	-	-
Agawam . . . .	Lane Const. Corp. . . . .	0 50	0 50	2 00	1 25	22 00	0 095	-
Amherst-Pelham .	Kelleher Corp. . . . .	0 40	0 50	3 00	1 10	20 00	0 095	-
Andover-North .								
Andover . . . .	Greenough Const. Co. . . . .	0 65	0 65	0 65	1 00	20 00	0 08	-
Andover . . . .	P. J. Holland . . . . .	0 40	-	3 50	1 00	-	0 10	-
Arlington . . . .	State Const. Co. . . . .	0 40	-	5 00	-	-	0 07	-
Ashfield-Conway .	Kelleher Corp. . . . .	0 40	0 40	0 40	1 20	18 00	0 095	-
Athol-Orange . .	G. Rosse & Son . . . . .	0 30	0 35	1 90	0 75	18 00	0 10	-
Athol . . . . .	R. E. Bull . . . . .	0 60	-	3 00	1 50	-	0 11	-
Attleborough . .	P. J. Holland . . . . .	0 40	0 45	2 00	0 90	18 00	0 12	-
Attleborough-North								
Attleborough . .	J. J. McHale . . . . .	0 55	-	2 00	1 25	18 00	0 10	-
Avon . . . . .	J. A. Silva . . . . .	0 40	-	3 50	1 00	-	0 09	-
Avon-Brockton . .	Powers Bros. . . . .	0 40	-	2 00	0 90	16 00	0 085	-
Ayer . . . . .	Antonio Pallotto . . . . .	0 45	-	2 25	0 50	-	-	-
Barre . . . . .	Frank & Frank Const. Co. . . . .	0 55	0 55	4 00	1 00	18 00	0 10	-
Becket-Lee . . .	Lane Const. Corp. . . . .	0 50	-	2 25	1 75	22 00	0 095	-
Bellingham-Mendon	G. Bonazzoli . . . . .	0 40	-	3 00	1 00	18 00	-	-
Berkley . . . .	Providence Rd. Con. Co. . . . .	0 35	0 40	1 00	1 00	18 00	-	-
Beverly . . . .	Welch & Moynihan . . . . .	0 70	-	0 70	1 00	25 00	0 09	-
Billerica . . . .	A. Pallotto . . . . .	0 55	0 55	3 00	0 75	15 00	0 09	-
Blandford . . . .	Warner Bros. & Goodwin . . . . .	0 55	0 50	3 00	1 00	20 00	-	\$0 14
Bourne-Sandwich .	S. W. Lawrence . . . . .	0 50	0 50	2 50	1 00	20 00	-	-
Boxford-Topsfield .	J. E. Watkins . . . . .	0 40	-	2 25	0 75	20 00	0 09	-
Brewster-Orleans .	Lane Const. Corp. . . . .	0 60	0 60	0 60	1 00	25 00	-	-
Bridgewater-East .								
Bridgewater . . .	Arute Bros., Inc. . . . .	0 55	0 55	3 00	1 00	18 00	-	-
Bridgewater- . .								
Middleborough . .	Powers Bros. . . . .	0 55	0 60	2 00	1 00	18 00	0 095	-
Buckland . . . .	T. J. Harvey . . . . .	0 60	0 40	2 50	1 15	20 00	0 09	-
Burlington . . . .	T. J. McCue . . . . .	0 50	0 60	3 00	1 00	18 00	0 09	-
Canton . . . . .	Reynolds Bros. . . . .	0 60	0 60	6 00	1 50	30 00	0 10	-
Canton-Stoughton .	Perini & Ampolini . . . . .	0 55	-	2 00	0 80	17 00	0 09	-
Carlisle . . . .	Revere Exc. Co. . . . .	0 40	0 40	1 50	1 00	18 00	-	-
Charlemont . . . .	Kelleher Corp. . . . .	0 50	0 36	3 00	1 50	22 00	0 11	-
Charlton . . . .	R. H. Newell Co. . . . .	0 45	-	2 00	1 00	20 00	0 10	-
Chicopee- . . . .								
Springfield . . .	Waterbury Rd. Const. Co. . . . .	0 45	-	2 00	1 10	18 00	0 09	-
Chilmark . . . .	M. F. Roach . . . . .	0 60	0 60	2 00	1 25	20 00	-	-
Clinton . . . . .	Guaranty Const. Co. . . . .	0 60	-	-	-	40 00	-	-
Concord . . . . .	Watertown Exc. Co. . . . .	0 40	0 50	2 25	1 00	14 00	0 09	-
Dalton . . . . .	D. S. McGrath, Inc. . . . .	0 90	0 75	2 00	1 20	18 50	0 105	-
Danvers . . . . .	E. W. Burr, Inc. . . . .	0 50	-	2 50	1 00	15 00	0 09	-
Dedham . . . . .	B. Perini & Sons, Inc. . . . .	0 40	0 30	2 00	1 00	18 00	0 08	-
Dennis . . . . .	Lane Const. Co. . . . .	0 60	0 60	3 00	1 00	25 00	-	-
Dighton . . . . .	E. J. Jones . . . . .	0 50	0 50	2 00	1 00	20 00	0 09	-
Dover-Needham . .	Lee Const. Co. . . . .	0 60	0 45	3 00	1 00	15 00	0 08	-
Dover-Westwood . .	University Const. Co. . . . .	0 50	-	2 25	1 00	20 00	0 095	-
Dudley-Southbridge	Waterbury Rd. Const. Co. . . . .	0 45	0 45	3 00	1 50	19 00	0 09	-
Easthampton . . .	A. G. Bianchi & Co. . . . .	0 90	-	2 25	1 50	22 00	0 11	-
Erving . . . . .	Kelleher Corp. . . . .	0 55	-	2 25	1 25	20 00	0 10	-
Foxborough . . . .	Perini & Ampolini . . . . .	0 40	0 50	2 00	1 25	25 00	0 085	-
Framingham . . . .	Middlesex Const. Co. . . . .	0 35	-	1 00	1 00	-	0 085	-
Framingham . . . .	Perini & Ampolini . . . . .	0 40	-	3 00	1 00	16 00	0 09	-
Framingham . . . .	Klauer Bros., Inc. . . . .	0 50	-	2 50	1 00	15 00	0 08	-
Franklin . . . . .	Hagan-Thibodeau . . . . .	0 40	-	0 40	1 20	20 00	-	0 12
Freetown . . . . .	G. Bonazzoli & Sons . . . . .	0 50	0 50	4 00	1 00	-	-	0 10
Gardner . . . . .	G. Bonazzoli & Sons . . . . .	0 40	0 40	4 00	2 00	20 00	0 09	-
Gardner-Templeton .	Fitchburg Conc. Const. Co. . . . .	0 60	-	3 00	1 00	17 00	0 10	-
Georgetown . . . .	R. G. Watkins & Son . . . . .	0 35	0 45	2 50	0 90	18 00	0 09	-
Great Barrington . .	A. G. Bianchi . . . . .	0 85	0 90	3 00	1 50	25 00	-	0 15
Greenfield . . . .	G. Bonazzoli & Sons . . . . .	2 00	-	2 00	1 20	18 00	0 095	-
Groton . . . . .	G. H. Pierce . . . . .	0 45	-	2 00	0 80	25 00	0 10	-
Halifax . . . . .	M. F. Roach . . . . .	0 40	-	2 00	1 00	20 00	0 18	-
Hamilton-Wenham .	Welch & Moynihan . . . . .	0 50	0 50	1 00	1 00	22 00	0 10	-
Hancock . . . . .	Lane Const. Co. . . . .	0 60	-	2 00	2 00	25 00	0 12	-
Hanover-Pembroke .	A. K. Finney . . . . .	0 40	0 50	3 00	0 90	20 00	0 09	-
Hanover-Pembroke .	Arute Bros., Inc. . . . .	0 51	0 51	2 50	1 00	18 00	0 10	-
Hanson . . . . .	F. C. Sargent . . . . .	0 45	-	2 00	1 00	18 00	0 09	-
Harvard . . . . .	Raimo & Penakio . . . . .	0 50	0 50	1 00	0 90	15 00	0 10	-
Harwich . . . . .	Merritt-Chapman & Scott . . . . .	0 50	0 40	4 00	1 00	20 00	-	-
Haverhill . . . .	R. G. Watkins . . . . .	0 35	-	2 50	0 80	18 00	0 23	-
Hingham . . . . .	T. J. McCue . . . . .	0 55	-	3 00	1 00	20 00	0 09	-

CONTRACT PRICES DEC. 1, 1929, TO NOV. 30, 1930

Conc. Surf. (cu. yd.)	Broken Stone (ton)	PIPE CULVERT (lineal feet)							Wooden Guard Rail (lin. ft.)	Stone Filling (cu. yd.)	Catch Basins (each)	Reinf. Conc. Ma- sonry (cu. yd.)	Gravel Borrow (cu. yd.)
		CLAY			REINF. CONCRETE								
		10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.					
-	\$2 60	\$0 40	\$0 50	\$1 00	\$1 25	-	\$2 00	\$3 50	\$0 60	-	\$65 00	\$25 00	\$0 85
-	-	-	0 46	-	0 80	-	1 60	2 50	0 60	-	50 00	-	0 55
\$12 85	-	-	1 00	-	1 25	-	-	-	1 00	-	-	20 25	1 25
-	2 10	-	0 70	-	-	-	-	-	0 50	-	60 00	25 00	0 50
-	1 95	0 45	0 55	0 80	-	-	-	-	-	-	55 00	25 00	0 60
8 00	2 00	-	0 50	-	1 00	\$1 50	1 50	2 00	0 60	-	60 00	-	0 65
8 00	2 25	0 60	0 60	-	1 00	-	-	-	-	-	50 00	-	0 50
8 00	2 00	-	-	-	-	-	-	-	-	-	-	-	0 55
-	2 40	0 45	0 55	0 80	1 10	1 50	1 90	3 00	0 50	-	55 00	24 00	0 60
-	2 80	0 45	0 50	-	0 90	-	1 95	-	0 70	-	50 00	18 00	0 49
11 50	3 25	-	0 60	-	1 20	-	1 40	-	-	-	70 00	-	0 70
7 00	2 60	0 40	0 45	-	0 80	1 25	1 60	3 00	0 60	-	50 00	22 00	0 55
8 25	2 60	0 50	0 60	-	1 25	3 00	-	3 00	0 70	-	75 00	25 00	0 65
-	2 40	0 45	0 65	-	1 25	-	2 25	3 50	0 70	\$3 00	50 00	-	0 60
8 00	2 30	0 40	0 50	0 70	0 90	-	2 00	-	0 50	-	60 00	18 00	0 50
-	-	0 60	0 70	-	1 00	-	-	3 00	0 60	-	60 00	-	0 60
-	2 90	-	-	-	1 00	-	2 00	3 50	-	2 35	-	30 00	0 75
-	2 80	-	0 75	-	1 25	-	2 25	3 25	-	1 20	65 00	25 00	0 80
-	-	-	0 60	-	-	-	2 50	-	-	-	60 00	23 00	0 60
-	-	-	1 00	-	-	-	-	-	0 50	-	-	20 00	0 50
-	2 10	0 50	0 55	-	1 00	1 40	-	-	0 70	-	55 00	-	0 70
-	2 10	0 60	0 60	-	0 80	1 25	-	-	0 60	-	60 00	30 00	0 70
-	3 05	-	-	-	-	-	-	-	0 50	2 25	-	30 00	-
-	-	0 50	0 65	-	1 10	1 65	2 00	-	0 75	-	70 00	30 00	0 80
-	2 25	0 50	0 50	-	1 00	-	2 00	-	0 60	-	60 00	20 00	0 55
-	3 50	-	0 65	1 10	1 20	1 60	2 00	3 25	0 75	-	70 00	30 00	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	0 50	-	0 95	1 25	1 75	3 00	0 50	-	50 00	23 00	0 55
9 00	2 95	-	0 50	1 00	1 00	1 25	2 00	3 50	0 60	-	60 00	29 75	0 60
-	2 80	-	1 00	-	1 00	1 40	-	-	0 65	-	-	20 00	0 70
-	2 00	-	0 70	-	1 20	-	1 80	2 00	0 70	-	60 00	20 00	0 65
-	2 75	0 50	-	-	-	-	-	-	-	-	70 00	-	0 75
-	2 35	0 45	0 55	-	0 90	-	-	-	-	-	65 00	17 00	0 60
-	-	-	-	-	1 00	-	-	-	0 60	-	-	20 00	0 50
-	3 10	-	-	-	-	-	2 00	-	0 50	-	-	25 00	0 36
-	3 00	-	0 60	-	1 00	-	2 25	-	-	2 00	-	25 00	0 70
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2 40	0 40	0 45	0 75	-	1 50	1 50	-	0 45	3 00	60 00	-	0 60
10 00	-	-	-	-	1 50	-	2 50	4 00	0 70	-	75 00	25 00	-
-	-	-	-	-	-	-	-	-	-	-	-	-	2 00
-	2 30	-	0 45	-	0 75	-	1 40	-	0 60	-	60 00	-	0 70
-	3 10	-	0 70	1 00	1 10	-	2 00	3 50	0 60	3 00	70 00	23 56	0 90
-	2 30	0 40	0 50	0 75	0 75	-	-	-	-	-	50 00	-	0 60
8 25	2 50	0 50	0 55	-	1 00	-	1 75	-	0 60	-	60 00	-	0 55
-	-	0 60	-	-	1 25	-	-	-	0 60	-	70 00	-	-
-	2 60	0 45	0 60	-	1 00	-	-	2 75	-	-	70 00	30 00	0 65
-	2 25	0 50	0 60	-	-	-	-	-	-	-	60 00	26 00	0 60
-	2 30	0 40	0 50	-	0 97	1 30	1 80	-	0 75	1 50	67 00	25 00	0 68
-	3 05	-	-	-	1 00	-	1 50	2 50	0 50	1 90	70 00	24 00	0 65
-	2 60	-	-	-	-	-	-	-	-	-	-	25 00	0 80
-	2 70	0 60	0 70	-	-	-	-	-	-	2 00	70 00	25 00	0 70
-	2 70	-	-	-	1 50	2 00	-	4 00	-	-	99 00	-	0 60
-	2 25	0 50	-	-	1 10	-	-	-	-	-	60 00	-	0 85
-	2 10	-	-	-	1 25	-	-	-	-	-	50 00	-	1 00
-	-	-	0 50	-	0 90	-	-	-	0 60	-	60 00	25 00	0 60
-	-	0 70	-	-	1 00	1 25	1 80	3 00	1 00	-	75 00	30 00	0 50
-	-	-	-	-	-	-	-	3 00	0 50	-	-	-	0 60
-	3 00	-	-	-	1 00	-	3 00	-	-	1 80	-	30 00	0 70
-	3 00	-	0 50	-	1 00	1 25	1 50	3 20	-	2 15	55 00	23 00	0 70
-	2 30	0 40	0 45	-	0 80	1 05	-	-	0 50	-	60 00	18 00	0 50
-	3 40	-	-	-	1 50	-	2 75	-	-	2 45	-	30 00	1 25
-	2 35	0 50	0 60	-	-	-	2 50	-	0 55	-	60 00	25 00	0 65
-	2 20	0 50	0 60	0 80	1 00	-	-	-	-	-	60 00	-	0 60
-	3 25	0 50	0 60	-	1 10	-	-	-	0 70	-	60 00	25 00	0 80
-	2 25	0 50	0 60	-	1 10	-	-	-	1 00	-	50 00	-	0 50
-	3 50	-	-	-	1 25	-	2 50	-	0 50	-	-	30 00	0 85
-	2 80	-	-	-	1 00	-	-	-	0 60	-	-	30 00	0 60
-	2 75	-	-	-	1 25	-	2 25	3 50	0 75	-	60 00	34 00	0 75
-	2 75	0 45	0 55	0 85	1 25	-	3 00	-	0 60	-	60 00	-	0 60
-	2 55	-	-	-	1 00	-	-	2 50	0 70	1 75	-	25 00	0 70
-	-	0 60	-	-	-	-	-	-	-	-	70 00	30 50	0 70
-	2 40	0 40	0 45	0 65	0 86	1 05	1 50	-	0 50	-	60 00	18 00	0 50
-	2 40	0 55	0 60	0 80	1 20	-	-	-	0 65	-	65 00	22 00	0 65



CONTRACT PRICES DEC. 1, 1929, TO NOV. 30, 1930 — *Continued*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Hingham-								
Weymouth . . .	Frank Lanza & Sons . . .	\$0 65	-	\$0 65	\$1 00	\$18 00	\$0 09	-
Holbrook . . .	Perini & Ampolini . . .	0 50	-	2 00	1 00	20 00	0 10	-
Holden . . .	Frank & Frank Const. Co. . .	0 55	-	3 00	1 00	18 00	0 10	-
Holliston . . .	Mainini & Rosenfeld . . .	0 50	\$0 55	2 50	0 50	15 00	0 08	-
Hudson . . .	A. M. Custance & Co. . .	0 60	0 60	4 00	1 00	18 00	0 10	-
Hudson . . .	Wm. J. Sullivan . . .	0 50	-	2 50	1 00	-	0 12	-
Ipswich-Rowley-								
Newbury-								
Newburyport . . .	P. J. Holland . . .	0 40	0 60	2 50	1 50	20 00	0 08	-
Lakeville . . .	E. W. Burr . . .	0 50	-	3 00	1 00	15 00	0 09	-
Lee . . .	D. W. Dwyer . . .	0 65	-	2 85	1 35	18 00	0 11	-
Lenox . . .	Lane Const. Corp. . .	0 50	0 60	0 50	1 00	20 00	0 10	-
Lenox . . .	N. H. Rd. Const. Co. . .	0 60	-	2 00	1 10	25 00	0 11	-
Lexington . . .	J. Iafolla Const. Co. . .	0 45	-	2 50	0 75	18 00	0 09	-
Littleton . . .	G. Gregorio Bros. . .	0 50	-	2 00	1 00	20 00	0 12	-
Lunenburg . . .	H. & J. P. Green . . .	0 49	0 50	1 95	0 95	20 00	0 10	-
Lynnfield . . .	R. G. Watkins & Son . . .	0 40	-	2 00	0 90	18 00	0 085	-
Marblehead . . .	Octavius Menici . . .	0 40	-	5 00	-	25 00	0 085	-
Marion . . .	Jos. McCormick . . .	0 45	-	2 50	1 25	25 00	0 09	-
Marlborough . . .	T. J. Kelley . . .	0 50	-	2 50	0 90	20 00	0 085	-
Marshfield . . .	D. Gregorio Bros. . .	0 35	0 50	1 50	0 75	18 00	-	\$0 14
Medfield . . .	Greenough Const. Co. . .	0 55	-	3 00	1 00	12 00	0 095	-
Medway . . .	Middlesex Const. Co. . .	0 50	-	4 00	1 00	20 00	0 095	-
Medway . . .	Hagan-Thibodeau Const. Co. . .	0 30	-	2 00	-	-	-	0 11
Mendon . . .	D. G. DiPietro . . .	0 32	0 50	2 00	1 00	17 00	-	0 12
Merrimac . . .	P. J. Holland . . .	0 25	-	3 50	-	18 00	0 12	-
Middleborough . . .	Frank Lanza & Sons . . .	0 44	0 44	2 00	1 00	18 00	0 095	-
Middleborough-								
Rochester . . .	Perini & Ampolini . . .	0 55	0 50	4 00	-	18 00	-	0 11
Millbury . . .	Guaranty Const. Co. . .	0 65	-	6 00	-	40 00	0 10	-
Millis . . .	D. S. DiPietro & Co. . .	0 35	0 40	1 75	1 00	18 00	0 115	-
Millis . . .	Greenough Const. Co. . .	0 50	-	3 00	1 00	-	0 09	-
Monson-Palmer . . .	Lee Const. Co. . .	0 40	0 35	2 10	1 00	18 00	0 10	-
Montague . . .	Kelleher Corp. . .	0 40	-	2 50	1 00	20 00	0 095	-
Nantucket . . .	John C. Ring . . .	1 00	1 00	1 00	1 00	30 00	-	-
Natick . . .	Sherry Const. Co. . .	0 90	-	0 90	-	25 00	0 09	-
Natick-Wellesley . . .	B. Perini & Sons, Inc. . .	0 50	-	2 50	-	20 00	-	-
Newbury . . .	Welch & Moynihan . . .	0 40	0 25	2 25	1 00	20 00	-	0 13
North Attleborough . . .	B. Perini & Sons, Inc. . .	0 40	0 50	4 00	1 25	20 00	0 095	-
Norton . . .	G. Bonazzoli & Sons . . .	0 40	0 40	4 00	-	30 00	0 09	-
Orange . . .	Kelleher Corp. . .	0 75	0 50	0 75	1 50	20 00	0 10	-
Oxford . . .	Frank & Frank Const. Co. . .	0 50	-	3 00	1 00	18 00	0 10	-
Palmer . . .	Chas. E. Horne . . .	0 40	-	3 00	1 00	18 00	0 13	-
Petersham . . .	Revere Exc. Co. . .	0 45	0 40	1 75	1 00	0 18	0 12	-
Phillipston . . .	Roy M. Wright . . .	0 50	0 50	2 00	1 00	18 00	-	0 15
Provincetown . . .	M. F. Roach & Sons, Inc. . .	0 65	-	-	1 00	20 00	-	-
Quincy . . .	E. C. Sargent . . .	0 45	-	3 00	1 00	-	0 09	-
Randolph-Quincy-								
Milton . . .	D. M. Biggs & Co. . .	0 40	-	3 00	1 00	20 00	0 085	-
Reading . . .	Bratley Const. Co. . .	0 70	0 45	2 50	0 90	12 00	0 07	-
Reading-Stoneham . . .	Angelo Susi & Co. . .	0 45	-	2 50	0 95	18 00	0 08	-
Rehoboth . . .	Clark & Rocklin . . .	0 50	-	2 00	1 00	18 00	0 13	-
Revere-Saugus . . .	M. McDonough . . .	1 00	0 50	-	-	-	0 075	-
Rockport . . .	So. Shore Const. Co. . .	0 40	-	2 00	1 00	17 00	0 07	-
Rockport . . .	Franklin Const. Co. . .	0 50	-	4 00	0 50	20 00	0 10	-
Rowley . . .	Welch & Moynihan Co. . .	0 45	0 55	2 00	1 00	25 00	0 09	-
Royalston . . .	R. E. Bull . . .	0 50	0 50	4 00	-	-	-	0 11
Sandisfield . . .	P. J. Kennedy . . .	0 80	-	7 50	1 00	25 00	0 15	-
Savoy . . .	A. G. Bianchi . . .	0 75	0 60	3 50	1 50	-	-	0 16
Sharon . . .	Arute Bros. . .	0 40	0 50	2 00	-	18 00	-	0 13
Sharon . . .	Arute Bros. . .	0 50	0 60	3 00	1 00	25 00	0 09	-
Sherborn . . .	Greenough Const. Co. . .	0 60	0 50	2 50	1 00	20 00	0 08	-
Shrewsbury-								
Boylston . . .	H. & J. P. Green . . .	0 50	0 50	2 00	1 00	20 00	0 10	-
Shrewsbury . . .	Lane Const. Co. . .	0 60	0 30	0 60	1 50	22 00	0 10	-
Shrewsbury-								
Northborough-								
Westborough . . .	Carlo Bianchi . . .	0 45	0 45	2 50	1 00	18 00	0 09	-
Westborough-								
Southborough . . .	B. Perini & Sons . . .	0 40	0 50	3 50	1 00	20 00	0 085	-
South Hadley . . .	Warner Bros. & Goodwin . . .	0 50	-	2 00	1 00	25 00	0 10	-
Southwick . . .	Lane Const. Corp. . .	0 45	0 65	2 00	0 75	22 00	0 085	-
Spencer . . .	Frank Seretto & Sons, Inc. . .	0 50	-	1 50	-	16 00	-	0 15
Sterling . . .	N. E. Rock Exc. Co. . .	0 40	-	1 00	1 00	20 00	-	0 12
Stockbridge . . .	N. H. Rd. Const. Co. . .	0 55	0 55	1 00	1 10	25 00	0 11	-

CONTRACT PRICES DEC. 1, 1929, TO NOV. 30, 1930 — Continued

Conc. Surf. (cu. yd.)	Broken Stone (ton)	PIPE CULVERT (lineal feet)								Wooden Guard Rail (lin. ft.)	Stone Filling (cu. yd.)	Catch Basins (each)	Reinf. Conc. Ma- sonry (cu. yd.)	Gravel Borrow (cu. yd.)
		CLAY			REINF. CONCRETE									
		10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.						
-	\$2 30	\$0 45	\$0 60	-	\$1 20	\$1 60	\$2 50	-	\$0 65	-	\$60 00	\$24 00	\$0 70	
-	-	0 50	0 75	-	1 25	1 75	-	-	-	-	50 00	-	0 75	
-	3 25	-	0 60	-	1 00	-	-	-	-	\$2 00	65 00	-	0 70	
-	-	-	0 50	-	1 00	-	-	-	0 75	-	-	20 00	0 60	
\$10 00	3 00	0 60	-	-	1 00	-	2 00	-	-	-	70 00	19 00	0 60	
-	2 75	0 50	0 60	\$1 25	-	-	-	-	-	-	60 00	-	0 60	
9 00	2 50	0 60	0 60	1 25	1 00	2 00	2 00	\$4 00	0 60	-	60 00	30 00	0 75	
-	2 90	-	-	-	0 83	1 15	-	-	-	-	65 00	-	0 60	
-	3 05	-	-	-	1 20	2 50	-	-	-	-	75 00	23 50	0 70	
-	2 65	-	1 00	-	1 10	-	-	3 00	0 50	1 50	60 00	22 00	0 50	
-	2 65	-	0 65	-	1 10	-	-	-	0 75	2 50	80 00	30 00	1 00	
-	2 10	-	0 60	-	1 15	1 50	2 00	-	0 60	-	60 00	22 00	0 70	
-	2 30	0 25	0 35	0 40	-	-	-	-	0 50	-	-	25 00	0 50	
-	2 95	0 50	0 60	-	1 00	1 40	2 00	3 10	0 60	-	50 00	22 00	0 60	
-	2 15	0 45	0 50	0 85	0 85	1 25	-	-	0 70	-	60 00	-	0 50	
-	1 70	0 50	0 60	0 90	-	-	-	-	-	-	60 00	-	0 01	
-	2 70	-	-	-	1 00	1 25	2 00	3 50	-	-	80 00	-	0 75	
-	2 50	-	0 50	-	0 90	1 50	-	-	0 60	-	60 00	-	0 50	
-	-	-	0 50	0 65	1 00	1 50	2 00	3 00	0 50	-	50 00	-	0 50	
-	2 60	0 45	-	-	-	-	-	-	-	-	60 00	-	0 80	
-	2 25	0 50	0 60	1 00	-	-	-	-	-	-	60 00	-	0 75	
-	-	-	-	-	-	-	-	-	0 45	-	-	18 00	0 60	
-	-	-	-	-	-	-	-	-	-	1 80	-	17 00	0 50	
-	-	0 40	0 50	-	0 40	1 20	-	2 90	-	-	-	18 00	0 55	
-	-	-	-	-	1 05	2 00	2 25	4 00	0 60	-	60 00	27 00	0 60	
-	-	0 50	-	-	1 50	-	-	4 00	-	-	75 00	-	0 50	
10 50	3 50	0 60	0 65	-	-	-	-	-	-	-	65 00	-	0 70	
-	-	-	-	-	1 00	-	-	-	0 50	2 00	-	-	0 50	
-	2 50	-	-	-	-	-	-	-	-	-	60 00	-	0 70	
8 75	2 85	-	0 60	-	1 00	-	-	2 50	0 50	-	60 00	25 00	0 50	
-	2 25	-	0 75	-	-	-	-	4 00	0 50	-	60 00	25 00	0 60	
-	-	1 50	-	-	1 50	-	-	-	1 00	-	80 00	-	-	
9 25	2 55	-	-	-	1 00	-	-	-	0 60	2 00	-	40 00	0 70	
9 00	2 50	-	0 55	0 90	1 10	-	1 80	-	-	2 00	60 00	-	0 80	
-	-	-	0 75	-	-	-	-	-	0 75	-	-	35 00	0 55	
-	-	0 50	0 60	-	0 95	1 30	1 80	2 80	0 50	-	65 00	-	0 60	
-	-	0 50	-	-	1 00	-	-	-	0 50	-	60 00	-	0 60	
-	3 00	0 60	0 70	-	1 25	1 75	2 00	-	0 50	-	70 00	30 00	0 70	
-	3 10	-	1 00	-	1 00	-	1 25	-	-	2 25	65 00	-	0 60	
-	-	-	0 50	-	-	-	-	-	-	1 60	75 00	-	0 60	
-	-	-	-	-	1 00	-	-	3 00	-	1 75	-	18 00	0 60	
-	-	-	-	-	1 10	-	-	3 00	-	1 75	-	22 00	0 70	
-	-	-	0 70	-	1 25	-	-	-	-	-	-	35 00	-	
-	2 40	0 40	-	0 80	-	-	-	-	-	-	65 00	-	0 75	
8 25	2 35	-	-	-	1 00	1 50	2 00	2 50	1 00	-	70 00	22 00	0 80	
-	-	0 60	-	-	-	-	-	-	-	-	60 00	-	0 60	
9 00	2 00	0 50	0 60	0 85	1 00	-	-	3 00	-	-	60 00	18 00	0 70	
-	2 75	-	-	-	-	-	-	4 00	-	1 65	50 00	25 00	0 60	
-	1 80	-	-	-	-	-	-	-	-	-	-	-	1 00	
-	2 55	0 40	0 45	0 75	0 75	1 20	-	-	0 50	-	65 00	-	0 65	
-	2 80	0 60	-	-	0 90	-	-	-	0 70	-	60 00	25 00	0 80	
-	2 55	0 55	0 65	-	1 10	-	-	3 50	0 80	-	55 00	25 00	0 65	
-	-	-	-	-	-	-	-	-	-	1 90	-	28 00	0 65	
-	2 50	-	-	-	1 50	-	4 00	-	0 70	2 70	80 00	28 00	1 25	
-	-	-	-	-	-	-	-	-	-	2 00	-	25 00	1 00	
-	-	-	-	-	1 25	-	2 50	-	0 60	-	-	25 00	0 50	
-	2 75	0 50	-	-	-	-	-	-	-	-	60 00	-	0 60	
-	2 30	0 50	0 60	-	1 20	1 50	-	-	0 60	-	60 00	30 00	0 60	
-	3 00	-	0 60	-	1 10	-	-	-	-	2 00	60 00	25 00	0 55	
8 00	3 30	-	0 55	0 90	1 20	-	-	-	0 50	-	65 00	25 00	0 75	
8 70	2 70	-	0 50	-	1 00	-	2 00	-	0 60	-	75 00	25 00	0 60	
8 35	2 50	-	0 55	-	1 10	1 50	1 95	-	0 55	-	60 00	22 50	0 65	
-	2 00	-	0 60	0 70	1 10	1 40	-	-	0 50	-	-	30 00	0 50	
-	2 20	0 40	0 50	-	-	-	-	-	0 50	-	55 00	25 00	0 60	
-	-	-	-	-	0 90	-	2 10	2 50	-	1 65	-	20 00	0 50	
-	-	-	-	-	0 90	-	-	-	-	1 90	-	25 00	0 55	
-	2 75	-	0 65	-	1 10	-	1 75	3 00	-	-	80 00	30 00	0 75	



CONTRACT PRICES DEC. 1, 1929, TO NOV. 30, 1930 — *Concluded*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Stoneham . . .	G. Retundi . . .	\$0 50	-	\$3 00	-	\$20 00	\$0 09	-
Stoughton . . .	John A. Silva . . .	0 50	-	4 00	\$1 00	-	0 09	-
Sutton . . .	Guaranty Const. Co. . .	0 50	-	5 00	1 00	25 00	0 15	-
Swampscott . . .	M. McDonough Co. . .	-	-	-	-	-	0 14	-
Taunton-Dighton-Rehoboth . . .	Sherry Const. Co. . .	0 80	-	0 80	1 00	18 00	0 09	-
Tewksbury . . .	Greenough Const. Co. . .	0 50	-	3 00	1 00	20 00	0 09	-
Tyngsborough . . .	Simpson Bros. Corp. . .	0 40	\$0 35	2 00	1 00	21 00	0 08	-
Waltham-Watertown . . .	Thos. J. McCue . . .	0 30	-	2 00	1 00	20 00	0 08	-
Waltham-Weston . . .	Jos. P. McCabe, Inc. . .	0 50	0 40	2 50	1 00	20 00	0 08	-
Wareham . . .	S. W. Lawrence . . .	0 50	-	5 00	1 00	20 00	0 20	-
Wareham . . .	A. K. Finney . . .	0 40	0 40	5 00	0 90	-	0 11	-
Westborough . . .	J. F. Rooney . . .	0 50	0 30	2 50	2 00	20 00	0 08	-
Westborough . . .	H. & J. P. Green Co. . .	0 50	-	2 25	1 00	22 00	0 09	-
West Boylston . . .	Frank & Frank Const. Co. . .	0 35	-	2 50	1 00	25 00	-	\$0 125
West Bridgewater . . .	Washburn & Sheridan . . .	0 60	-	5 00	1 50	25 00	0 14	-
Westford . . .	Antonio Pallotto . . .	0 50	0 50	2 50	0 75	20 00	0 10	-
West Newbury . . .	P. J. Holland . . .	0 75	-	0 75	1 25	18 00	0 12	-
Weston . . .	So. Shore Const. Co. . .	0 45	-	2 00	1 00	18 00	0 09	-
West Springfield . . .	D. O'Connell's Sons . . .	0 40	-	3 00	1 00	25 00	0 095	-
West Springfield . . .	D. O'Connell's Sons . . .	0 60	-	3 00	1 05	25 00	0 11	-
Whately . . .	Kelleher Corp. . .	0 30	-	3 00	1 00	20 00	0 10	-
Winchendon . . .	J. Iafolla Const. Co. . .	0 40	0 45	2 50	1 00	18 00	0 14	-
Windsor . . .	Kelleher Corp. . .	0 55	0 20	2 00	1 25	18 00	0 045	-
Williamstown . . .	D. S. McGrath . . .	0 90	1 00	3 00	1 25	20 00	0 12	-
Williamstown . . .	Kelleher Corp. . .	-	0 50	-	-	-	0 11	-
Wrentham . . .	T. J. Quinn & Co. . .	0 70	-	3 00	-	-	0 11	-

CONTRACT PRICES DEC. 1, 1929, TO NOV. 30, 1930 — *Concluded*

Conc. Surf. (cu. yd.)	Broken Stone (ton)	PIPE CULVERT (lineal feet)								Wooden Guard Rail (lin. ft.)	Stone Filling (cu. yd.)	Catch Basins (each)	Reinf. Conc. Ma- sonry (cu. yd.)	Gravel Borrow (cu. yd.)
		CLAY			REINF. CONCRETE									
		10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.						
\$9 00	\$2 20	\$0 45	\$0 47	-	\$0 90	-	-	\$2 70	-	-	\$55 00	-	\$0 75	
-	2 50	0 50	-	-	-	-	-	-	-	-	50 00	-	0 70	
-	4 50	-	-	-	1 00	-	-	-	-	\$3 25	75 00	\$24 00	1 00	
-	2 00	-	-	-	-	-	-	-	-	-	-	-	-	
8 50	2 80	0 50	0 60	-	1 00	\$1 25	\$2 00	3 00	\$0 60	-	75 00	25 00	0 80	
-	2 10	-	0 50	-	1 00	-	-	-	-	-	60 00	30 00	0 60	
-	2 40	-	0 50	-	1 00	-	-	-	0 60	-	65 00	19 00	0 45	
-	2 20	0 40	0 50	-	1 00	-	-	-	0 60	-	60 00	-	0 60	
-	2 00	0 40	-	-	-	-	-	-	0 50	-	50 00	22 00	0 45	
-	-	0 50	-	-	1 10	-	2 25	3 50	-	-	-	30 00	0 40	
-	2 70	-	-	-	-	-	-	-	-	-	-	22 00	0 50	
-	2 60	-	-	-	1 00	-	-	-	-	-	-	20 00	0 70	
-	2 56	-	-	-	1 10	-	1 70	-	-	1 90	-	25 00	0 60	
-	-	0 50	0 60	-	1 00	-	-	-	-	1 80	-	25 00	0 60	
-	-	1 00	1 00	-	-	-	-	2 00	-	2 25	65 00	25 00	0 60	
-	-	-	0 65	-	1 00	-	2 00	-	0 60	-	100 00	-	0 70	
-	-	-	-	-	0 90	-	-	-	0 70	-	-	25 00	0 60	
-	-	-	-	-	0 75	-	-	-	0 50	-	-	18 00	0 40	
-	2 25	-	0 45	-	-	-	-	-	-	-	70 00	-	0 70	
8 80	1 85	0 50	0 55	\$0 95	-	-	-	-	-	-	60 00	-	0 70	
-	2 30	0 55	0 65	1 15	-	-	-	-	-	-	60 00	30 00	1 00	
-	2 30	0 55	0 65	-	1 25	-	-	-	0 50	-	-	30 00	0 70	
-	-	-	0 50	-	1 00	-	2 00	3 00	-	-	-	20 00	0 70	
-	3 00	-	-	-	1 10	-	1 90	3 00	-	1 75	-	24 00	0 55	
-	3 60	-	0 75	-	-	-	-	-	0 60	2 00	60 00	24 00	1 25	
-	3 65	-	-	-	-	-	-	-	-	-	-	-	1 20	
-	2 85	0 50	-	-	-	-	-	-	-	-	90 00	-	0 75	



## REGISTRY OF MOTOR VEHICLES

In general, the 1930 statistics do not indicate the usual increase in the number of applications received; this decrease, however, is offset by the constantly increasing use made of the Registrar's records and correspondence involved. The two largest items of decrease were in the total registrations and in the examination of new operators.

Under chapter 379 of the Acts of 1928, the Registrar is required to furnish a copy of every registration record to the Commissioner of Corporations and Taxation, the record being forwarded to the various boards of assessors as a basis of the excise tax bill sent to the owner of each motor vehicle registered. This law was amended in 1930, and the perfecting amendment was very helpful in removing some of the difficulties first experienced with this law. Minor changes were made on the registration blank in order that the Registrar might be in a position to furnish just the information required by the assessors in connection with computing the excise tax and, as a result of these changes, this law is not now imposing any undue burden of details, particularly in the matter of correspondence, on the Registrar.

The activities of the Registry of Motor Vehicles, working towards greater safety on the highways, have been continued without abatement, and close cooperation between the various safety committees, police and other officials and organizations throughout the State, having to do with this ever present problem of highway safety, has been at all times maintained.

A few of the outstanding figures for the year, together with a comparison of the previous year, follow:—

	1929	1930
Motor Vehicle certificates of registration issued	1,023,084	1,013,118
Licenses to operate issued . . . . .	944,338	982,795
Examinations of applicants for licenses . . .	183,758	123,001
Licenses and registrations revoked and suspended . . . . .	53,133	52,954
Licenses revoked for driving under influence of liquor . . . . .	5,381	5,052
Total number of applications handled . . .	2,106,564	2,104,342
Gross receipts from fees . . . . .	\$6,498,854.72	\$6,462,618.51

### REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a little over 1% decrease in passenger registrations, with a very slight increase in commercial registrations, the motor cycle registrations continuing to decrease as they have for several years past.

	1905	1910	1915	1920	1925	1929	1930
Passenger cars . . .	4,889	31,360	90,580	251,570	663,858	903,648	893,558
Commercial vehicles .	—	—	12,053	52,968	100,480	113,268	114,918
Motor cycles . . .	553	3,358	9,520	15,142	10,333	6,168	4,642
Totals . . .	5,442	34,718	112,153	319,680	774,671	1,023,084	1,013,118

### EXAMINATIONS FOR LICENSES

The method of examining new operators and the examination itself were considerably changed during the year 1930. The old system of having operators appear at examining points, and many times being turned away if there were too many waiting, was done away with and all examinations were by specific appointment for certain hours, thus insuring each applicant his test at the time designated. The examination itself has been extended to include a thorough test of the applicant on the motor vehicle law, a reading test, an eye test, as well as the usual actual demonstration on the highways. Whether or not the new examination is accountable for the reduction in the number of applicants

for new licenses in 1930 is not known, but, in any event, this classification is one of those in which a decrease should be of little concern. It is fair to assume that the decrease represents persons who decided, after study, that they could not pass the revised examination. It is believed that the new examination system has been found extremely satisfactory to all concerned and particularly in that it does away with the long delays that prospective operators formerly experienced in securing their licenses during the busy periods. Examinations for licenses were held at 55 points in the State with the results as tabulated below: —

	1929	1930
Operators passed . . . . .	122,887	88,592
Operators unfit . . . . .	33,104	19,307
Restriction, removal, passed . . . . .	22,808	12,166
Restriction, removal, unfit . . . . .	3,717	1,601
“Competency” passed . . . . .	1,144	1,241
“Competency” unfit . . . . .	98	94
Total examinations . . . . .	183,758	123,001

BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles assist in the distribution of number plates, the issuing of licenses and furnishing general information relative to the motor vehicle laws. The Registrar has continued giving hearings at stated intervals at the branch offices in Pittsfield, Springfield, Worcester, Lawrence, Lowell, Fall River and New Bedford, so that persons living in these districts whose licenses or rights have been suspended or who, for other reasons, wish an appointment with the Registrar may be heard by him or by his deputy or assistant, without the necessity of making a trip to Commonwealth Pier at Boston. Each branch office supervises the work of the examiners and investigators and of law enforcement in its district. The following table gives approximate figures showing the distribution of applications received at the branch offices and at the central office at Commonwealth Pier, Boston: —

*Approximate Distribution of Registrations, Licenses, Etc.*

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Total
Boston:					
Counter . . . . .	245,000	—	124,000	95,000	464,000
Mail . . . . .	154,000	—	489,000	26,000	669,000
Examinations . . . . .	—	32,000	—	3,500	35,500
Pittsfield . . . . .	25,000	4,000	15,000	8,000	52,000
Springfield } Greenfield }	80,000	9,800	50,000	30,000	169,800
Worcester } Fitchburg }	77,000	8,500	44,000	26,000	155,500
Lawrence . . . . .	34,000	4,000	24,000	12,000	74,000
Lowell . . . . .	26,000	3,500	18,000	8,500	56,000
Fall River . . . . .	23,000	4,000	18,000	8,000	53,000
New Bedford . . . . .	23,000	3,000	21,000	8,000	55,000
Lynn . . . . .	64,000	8,500	38,000	23,000	133,500
Quincy . . . . .	32,000	7,000	22,000	13,000	74,000
Brockton . . . . .	40,000	3,500	26,000	15,000	84,500
Hyannis . . . . .	10,000	2,500	4,600	4,500	21,600
Nantucket <sup>1</sup> . . . . .	1,000	—	—	—	1,000
Oak Bluffs <sup>1</sup> . . . . .	2,000	—	—	—	2,000
Totals . . . . .	836,000 <sup>3</sup>	90,300	893,600	280,500 <sup>2</sup>	2,100,400

<sup>1</sup> Licenses and miscellaneous applications included in counter figures.  
<sup>2</sup> This figure includes approximately 160,000 number plate reissues.  
<sup>3</sup> Does not include reissues (see Miscellaneous).



A new branch office was opened in Fitchburg on July 1st, 1930, this office being classified as a sub-office coming under the jurisdiction of the Worcester office.

### COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures give an approximate idea of the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

#### *Notices of Cancellation of Insurance Policies Received and Intents to Revoke Mailed*

	1929	1930
(a) For non-payment of premium . . . . .	49,846	70,855
(b) For other reasons . . . . .	15,755	14,635
Total . . . . .	65,601	85,490
Revocations . . . . .	25,596	28,959
Sets of number plates returned . . . . .	97,036	94,290

It is interesting to note that the receipt of 85,490 notices of cancellation from insurance companies required the mailing of the same number of notices of intent to revoke; that 18,583 of these cases were adjusted by the filing of certificates by a new company; 35,017 cancellations were adjusted by the filing of reinstatement notices from the same company; 2,931 by the surrender of registration plates prior to the effective date of cancellation; and 28,959 by the revocation of the plates and certificates. In connection with the surrender of the number plates it was necessary to send notices of the return of 94,290 plates to the various insurance companies covering the registrations involved.

Particular attention should be directed to the fact that of the approximate 29,000 revocations only about 12,000 persons returned their plates and certificates promptly upon receiving notice from this office. The return of approximately 10,000 more sets of plates and certificates was secured through the efforts of the police departments and the examiners and inspectors of the Registry, leaving approximately 8,000 sets of plates not returned, although the registrations involved had been revoked and the insurance cancelled. Practically all of these revocations were due to non-payment of premium cancellation notices.

### AIRCRAFT

Practically all phases of the work of the Aviation Section show an increase over the previous year, principally in the number of aircraft registered and of pilot's permits issued. There is, however, a very satisfactory decrease in airplane accidents. The work carried on under the provisions of chapter 388 of the Acts of 1928, has resulted in the improved conditions of airports located throughout the State. The Engineering Section has surveyed the landing fields and has checked the various fields after improvements or changes have been made, so that it is possible to operate safely from many airports inspected by the Department of Public Works.

The Aviation Section has cooperated with various organizations both within and without the State, including the United States Department of Commerce, Aeronautics Branch, so that there has grown up throughout the Commonwealth a better understanding concerning aviation in general.

The following statistics which give a summary of the work indicate a strict enforcement of the law. While an increase in registrations and licenses is shown, there is a decrease in accidents, which indicates that the restrictions imposed on the operation of aircraft apparently tend towards safety in this comparatively new method of transportation:—

	1929	1930
Pilots' licenses issued . . . . .	42	39
Airplanes registered . . . . .	36	43
Pilots license fees received . . . . .	\$355	\$335
Airplane registration fees received . . . . .	\$540	\$645
Pilots examined for licenses and amendments . . . . .	36	45
Aircraft examined for registrations permits and repairs . . . . .	60	361
Pilots' permits issued . . . . .	173	338
Aircraft permits issued . . . . .	135	231
Suspensions of licenses, registrations and rights to operate . . . . .	41	53
Court prosecution for violations of aircraft laws . . . . .	6	5
Surveys of bodies of water for seaplane bases . . . . .	—	1
Surveys of fields for airports . . . . .	47	26
Recheck surveys of fields for airports . . . . .	2	10
Buildings surveyed for air marking . . . . .	—	15
Flying fields approved . . . . .	3	14
Flying fields disapproved . . . . .	14	14
Investigations made by aircraft inspectors . . . . .	313	650
Rulings made by Registrar . . . . .	1	3
Airplane accidents:		
Crack-ups . . . . .	68	50
Non-fatals . . . . .	19	17
Fatals . . . . .	8	4
Unknown . . . . .	—	1
Persons injured . . . . .	29	39
Persons killed . . . . .	13	5
Planes damaged . . . . .	—	53
Planes washed out . . . . .	—	20
Caused by motor failure . . . . .	28	11
Structural failure . . . . .	10	7
Improper operation and other reasons . . . . .	57	54
Ground accidents:		
Crack-ups . . . . .	No Record Kept	20
Non-fatals . . . . .		3
Persons injured . . . . .		3
Planes damaged . . . . .		23
Planes washed out . . . . .		2

INSPECTION OF MOTOR VEHICLE EQUIPMENT

Periodic Inspection Regulations of the Registrar, made in accordance with the provisions of section 7A, chapter 90 of the General Laws, became effective on August 1, 1930. During August and September the safety equipment on over 750,000 motor vehicles was inspected at more than 2,000 official inspection stations, which had been approved by the Registrar for this purpose. Adjustments or repairs were found necessary in about 70% of the inspections reported. As a result, a decided improvement was noticed in the general condition of brakes, lights, and other equipment on vehicles being operated on the highways of this Commonwealth.

Although most of the stations which conducted the inspections were approved only a short time before the beginning of the equipment campaign, they were selected with great care and the work was performed honestly and efficiently. No temporary inspection stations were approved, so that there is now a trained organization sufficient to take care of all future inspections, with a personnel of more than 3,000 adjusters, each one of whom was tested as to his knowledge and ability to conduct tests and effect necessary repairs before being given the approval by the Department.

During August and September, while the inspection campaign was in progress, there were 23 fewer persons killed in Massachusetts than during the corresponding period in 1929, which is some indication that the correction of equip-



ment defects may have had a direct effect in reducing accidents, besides having distinct educational advantages.

Analysis of the Equipment Inspection Campaign may be summarized as follows: —

Total number of cars inspected . . . . .	752,031
Total O. K. without repair or adjustment . . . . .	225,609 = 30%
Total requiring replacement or adjustment . . . . .	526,422 = 70%

Repairs or adjustments on the 526,422 vehicles requiring correction of defects in equipment were as follows: —

Brakes and lights . . . . .	127,844
Brakes only . . . . .	82,724
Lights only . . . . .	315,854

Horn, mirror, muffler and other minor items of inspection required adjustment or repair on 60,162 vehicles.

*Brakes and Lights*

Fifteen men were regularly assigned to equipment work. Besides their duties in connection with the approval of official inspection stations and adjusters, these men did considerable road work which consisted principally of reporting or tagging overloaded commercial vehicles and vehicles operated with defective brakes, lights, or other equipment. 3,583 motor vehicles were tagged for defective brakes by the equipment inspectors and more than 20,000 cars because of defective lights.

*Headlighting and Rear Lamps*

The Registrar approved no new headlamps or devices during 1930. Extensions of approval certificates already in force, however, are made as follows: —

- 1. One extension of single filament headlamp, and
- 2. Twenty extensions of two-filament tilting-beam headlamps showing that the tendency towards the tilting-beam type and the proper design to eliminate focusing mechanisms, which tendencies were indicated in last year's report, have become almost standard practices in headlamp design. Sixteen rear lamps were approved by the Registrar during the year. All of these were of the type in which the tail light was combined with stop signals and in some cases backing lights. One supplementary extension was granted of a tail lamp previously approved.

*MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS*

The deaths caused by motor vehicles in 1930 numbered 795, an increase of 18 or 2.3 per cent as compared with the record of the previous year. The record of persons killed and injured in motor vehicle accidents in 1929 and 1930 is as follows: —

*Motor Vehicle Accidents to Persons*

	Persons Killed		Persons Injured	
	1929	1930	1929	1930
Pedestrians by autos . . . . .	436	438	18,090	15,413
Pedestrians by motor cycles . . . . .	5	3	35	32
Pedestrians near street cars . . . . .	9	4	31	32
Occupants of autos . . . . .	242	281	25,801	26,688
Occupants of autos at railroad crossings . . . . .	28	22	47	31
Occupants of motor cycles . . . . .	26	16	565	589
Bicycle riders . . . . .	14	13	955	812
Occupants horse-drawn vehicles . . . . .	5	9	302	257
Coasters (on sleds) . . . . .	9	7	285	333
Coasters (on wheels) . . . . .	3	2	0	92
Totals . . . . .	777	795	46,111	44,279

		Children Killed		Children Injured	
		1929	1930	1929	1930
Boys	.	137	116	7,294	7,163
Girls	.	60	45	3,292	3,689
Totals	.	197	161	10,586	10,852

		Number of Collisions		1929	1930
Collision with pedestrian	.	.	.	17,585	14,587
Collision with automobile	.	.	.	20,826	17,145
Collision with horse-drawn vehicle	.	.	.	392	282
Collision with railroad train	.	.	.	68	25
Collision with street car	.	.	.	447	327
Collision with fixed object	.	.	.	2,869	2,624
Collision with bicycle	.	.	.	959	801
Non-collision accident (car overturned)	.	.	.	—	525
Collision with motor cycle	.	.	.	557	574
Collision with sled	.	.	.	255	319
Collision with animal	.	.	.	—	92
Totals	.	.	.	43,958	36,301
In the daytime	.	.	.	29,645	22,447
After dark	.	.	.	14,313	13,854
Totals	.	.	.	43,958	36,301

#### ACCIDENT REPORT LETTERS

As provided by Section 26, Chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these accident reports received in 1930 was 38,374 as compared with 35,014 received in 1929. Under the requirements of Section 29, Chapter 90, General Laws, 16,970 similar reports of accidents were received from Police Departments throughout the State in 1930 as against 17,186 received in 1929.

#### COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS\*

Year	Automobiles Registered	Motor Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Suspensions and Revocations	For Operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,016,916	6,168	1,023,084	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052

\* While it may be noted that the number of persons killed shows an increase over 1929, while at the same time there was a decrease in motor vehicles registered, it should be remembered that this decrease in motor vehicle registrations is due to a falling off in the number of reissues as, according to the number plate record, there were actually 20,000 more sets of plates issued in 1930 than in 1929. Further, the receipts from the gasoline tax plainly indicate that the total number of miles traveled by motorists over our highways in 1930 was greatly in excess of that of the previous year, which fact also has a specific direct bearing on the unfortunate increase in fatalities.



### INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, headlight violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. The work of the inspectors is indicated by the following tabulation on the classification of reports: —

#### *Classification of Reports*

	1929	1930
Accidents, fatal . . . . .	747	761
Accidents, non-fatal . . . . .	2,455	3,319
Accidents, brief reports . . . . .	1,445	1,597
General reputation . . . . .	3,302	3,893
Miscellaneous . . . . .	6,194	7,037
<b>Totals . . . . .</b>	<b>14,143</b>	<b>16,607</b>
Complaints filed . . . . .	10,178	6,426
Garages inspected . . . . .	2,897	6,010
Headlight and other violations report . . . . .	48,693	37,294
Prosecutions conducted . . . . .	825	594
Amount of fines . . . . .	\$38,765	\$28,334

### REVOCATIONS AND SUSPENSIONS

	1929	1930
Licenses suspended . . . . .	12,120	11,633
Licenses revoked . . . . .	4,014	3,740
Rights suspended . . . . .	4,174	4,014
Certificates suspended . . . . .	9	9
Certificates revoked . . . . .	30,500	31,471
Certificates and licenses suspended . . . . .	45	55
Certificates and licenses revoked . . . . .	2,046	1,841
Certificates revoked and rights suspended . . . . .	157	148
Rights in Massachusetts suspended . . . . .	68	43
<b>Totals . . . . .</b>	<b>53,133</b>	<b>52,954</b>
Resulting from investigations . . . . .	16,040	12,429
Resulting from Court convictions . . . . .	9,985	9,096
Resulting from Police complaints . . . . .	1,755	1,856
Resulting from Judge's complaints . . . . .	46	33
Resulting from State Police complaints . . . . .	199	676
Resulting from Insurance cancellations . . . . .	25,108	28,864
<b>Totals . . . . .</b>	<b>53,133</b>	<b>52,954</b>

#### *Character of Offenses*

	1929	1930
Reckless and endangering . . . . .	2,209	2,034
Liquor convictions . . . . .	4,575	4,302
Going away after accidents . . . . .	474	425
Without authority . . . . .	669	734
Racing . . . . .	6	2
Improper person, liquor . . . . .	806	750
Improper person . . . . .	5,570	5,357
Improper operation . . . . .	8,297	7,661
Two overspeeds . . . . .	381	362
Three overspeeds . . . . .	34	24
Insurance cancellations . . . . .	25,108	28,864
Insurance convictions . . . . .	382	351

	<i>Character of Offenses</i>	
	1929	1930
Improper equipment, miscellaneous . . . . .	1,685	412
Improper equipment, brakes . . . . .	219	187
Improper equipment, lights . . . . .	1,793	637
Deaths (fatal accidents) . . . . .	765	772
Other offenses . . . . .	160	80
Totals . . . . .	53,133	52,954
Formal hearings . . . . .	6,751	5,789
Court recommendations adopted: —		
Liquor . . . . .	0	0
Reckless and endangering . . . . .	58	79
Going away after accidents . . . . .	17	14
Without authority . . . . .	1	0
Totals . . . . .	76	93
Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned . . . . .	4,077	4,215

ANALYSIS OF COURT ABSTRACTS RECEIVED

	1929	1930
Number of courts forwarding abstracts . . . . .	95	95
Total abstracts received . . . . .	57,025	57,851
Number of abstracts recording convictions . . . . .	46,448	41,165

*Offenses*

(Analysis of convictions, not including appeals)

Overspeeding . . . . .	14,940	14,283
Reckless . . . . .	43	21
Operating under influence of liquor . . . . .	4,527	3,115
Using auto without authority . . . . .	1,046	821
Endangering lives . . . . .	2,781	1,885
Not stopping after causing injury . . . . .	797	556
Without license . . . . .	3,852	2,878
Without registration certificate . . . . .	1,302	1,024
Unregistered vehicle . . . . .	370	250
Improper display or no register number . . . . .	268	176
Refusing to stop on signal . . . . .	503	453
Unlighted lamps . . . . .	1,649	688
Not signalling . . . . .	34	2
Dazzling lights . . . . .	1	—
Operating within 8 ft. of street car . . . . .	244	202
Violation of Metropolitan Park Rules . . . . .	1,393	1,096
Operating after suspension or revocation of license . . . . .	534	372
Larceny . . . . .	191	145
Manslaughter . . . . .	1	—
Miscellaneous . . . . .	3,100	3,057
Lenses not approved . . . . .	68	—
No reflector . . . . .	2	7
Racing . . . . .	6	2
Operating after reg. certificate revoked . . . . .	25	11
No rear light . . . . .	372	89
Not displaying lights . . . . .	156	127
Violation spot-light law . . . . .	2	—
Improper lights . . . . .	559	583
Brakes not as required by law . . . . .	435	399



	1929	1930
Violation of Insurance Law . . . . .	449	262
Not slowing down approaching pedestrian . . . . .	36	39
Not slowing down at intersecting way . . . . .	5,472	7,242
Violation of law of road . . . . .	1,159	1,344
Perjury . . . . .	—	—
Making false statements on license application falsely impersonating or conspiring to obtain a license . . . . .	90	9
Loaning a license to another . . . . .	5	3
Allowing intoxicated person to operate . . . . .	13	5
No windshield cleaner . . . . .	1	—
Attempted larceny . . . . .	22	19
Totals . . . . .	46,448	41,165

### USED CAR SECTION (Motor Vehicle Identification)

The Used Car Section indexes cars reported stolen, lists the sales of used cars, investigates the history of cars sold bearing obliterated, defaced or changed engine and makers' numbers, and advises the owners of cars registered under the incorrect engine and makers' numbers where to find the correct numbers on the cars.

The work of this section is summarized in the following tables:

#### *Dealers*

	1929	1930
Total number of first class dealers reporting . . . . .	1,304	1,327
Total number of second and third class dealers reporting . . . . .	450	460
Total number making reports to this office . . . . .	1,754	1,787

#### *Reports*

Approximate number of individual reports received daily . . . . .	450	300
Approximate number of dealers' reports received daily . . . . .	1,500	1,000

#### *Motor Vehicles Stolen*

Number stolen in Boston . . . . .	4,112	4,879
Number stolen in Massachusetts (including Boston) . . . . .	7,850	8,389
Number reported stolen from various sources throughout the country, including Massachusetts . . . . .	21,194	25,300
Number recovered through information furnished by this office . . . . .	345	344

#### *Engine and Serial Numbers*

Engine numbers assigned to cars . . . . .	65	24
Certificates issued authorizing the replacement of engine numbers . . . . .	1,474	847
Certificates issued authorizing the replacement of serial numbers . . . . .	2,223	1,552
Certificates issued authorizing the replacement of both engine and serial numbers . . . . .	75	10
Total number of authorization certificates issued . . . . .	3,772	2,409

### EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Representatives of the department attended meetings of the Eastern Conference of Motor Vehicle Administrators in May at Washington, D. C. and in October at Asheville, N. C.; also the 19th annual Safety Congress of the National Safety Council held in Pittsburgh, September 29th to October 3rd.

ANALYSIS OF RECEIPTS

The fees received for the year 1930, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table: —

Certificates of registration:			
Passenger cars (including taxicabs)	890,144	\$2,802,266	75
Commercial cars	114,918	1,234,055	05
Busses	3,414	81,208	25
Trailers	701	33,169	00
Motor cycles	4,642	6,600	75
Manufacturers or dealers (including repairers)	3,112	9,300	00
Manufacturers or dealers additional cars (including repairers)	20,922	62,560	00
Licenses to operate:			
Original licenses	90,882 at \$2 00	—	181,764 00
Renewal licenses	891,913 at \$2 00	—	1,783,826 00
Examinations	86,792 at \$2 00	\$173,584	
Re-examinations	35,800 at \$1 00	35,800	
<hr/>			
Total examinations	122,592		209,384 00
Copies of certificates and licenses			
furnished	44,042 at \$1 00		44,042 00
Duplicate number plates furnished	7,927 at \$1 00		7,927 00
Lens approval applications	15 at 50 00		750 00
Miscellaneous receipts, auto lists, process fees, etc.			5,765 71
<hr/>			
Total amount of fees		\$6,462,618	51
Motor Vehicle fees rebated (deducted)		76,523	66
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Net fees		\$6,386,094	85
Court fines received by the Treasurer and Receiver			
General		657,964	06
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Total receipts credited Highway Fund account, 1930		\$7,044,058	91

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1930 was \$1,511,043.20, which was 23.6 per cent of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,533,015.71 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1930

Personal services:			
Regular payroll	\$873,439	06	
Overtime	16,901	80	
<hr/>			\$890,340 86
Supplies:			
Books, maps, etc.	\$1,138	39	
Typewriter supplies	3,432	84	
Adding machine repairs and supplies	56	51	
Other supplies	4,046	02	
Stationery	23,378	50	
Typewriter repairs	107	19	
Other repairs	800	93	
<hr/>			\$32,960 38
Equipment and furniture:			
Typewriter machines	\$3,629	81	
Adding machines	1,112	54	



Other machines . . . . .	\$3,268 91
Desks . . . . .	1,995 76
Bookcases, tables, etc. . . . .	3,119 71
Filing cabinets . . . . .	12,902 60
Chairs . . . . .	1,350 83
Dictograph . . . . .	1,270 92
Partitions (Boston) . . . . .	1,852 00
Branches—Counter, safes . . . . .	1,648 65
Electric fans . . . . .	251 35
Headlight and brake testing equipment . . . . .	581 51
Uniforms . . . . .	5,061 97

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\$38,046 56

Traveling expenses:

Officials . . . . .	\$1,875 91
Employees . . . . .	39,253 89
Aviation . . . . .	6,620 07
Automobiles (hired) . . . . .	59 87
Automobiles (owned by employees) . . . . .	113,815 94
Automobiles (owned by state)	
Maintenance of 10 automobiles . . . . .	1,634 18
Replacement of 1 automobile . . . . .	356 10
Purchase of 9 automobiles . . . . .	4,849 51

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\$168,465 47

Other services and expenses:

Expressage . . . . .	\$2,313 03
Postage . . . . .	84,202 79
Printing	
Aviation printing . . . . .	82 65
Other reports . . . . .	1,570 09
Other printing . . . . .	13,744 83
Telephone . . . . .	7,315 38
Premium on bonds of employees . . . . .	376 29
Rent . . . . .	46,350 00
Cleaning and janitor services . . . . .	1,274 00
Rat extermination . . . . .	234 00
Labor . . . . .	541 80
Number plates . . . . .	172,822 09
Auto lists . . . . .	10,000 00
Sundries . . . . .	267 72
Towels and soap . . . . .	1,054 35
Water and ice . . . . .	1,063 20

Branch offices:

Rent, telephone, lighting, fuel and heating . . . . .	26,059 26
Labor and services . . . . .	4,979 15
Supplies and expenses . . . . .	4,641 70

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\$378,892 33

*Publicity for Safety Work*

Labels . . . . .	\$1,737 02
Paper . . . . .	7 86
Personal services . . . . .	57 00
Posters . . . . .	267 19
Sundries . . . . .	268 53

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\$2,337 60

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\$1,511,043 20

*Summary*

Personal services . . . . .	\$890,340 86
Expenses . . . . .	618,364 74
Publicity for safety work . . . . .	2,337 60

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Total expenses . . . . . \$1,511,043 20

## RELATING TO WATERWAYS AND PUBLIC LANDS— BOSTON HARBOR

### THE COMMONWEALTH FLATS AT SOUTH BOSTON

#### *Commonwealth Pier No. 5*

During the year the Department has carried on the usual work of maintenance and miscellaneous repairs, including repairs to iron ladders, sprinkler system, heating system, Kinnear and Ogden doors, roofs, the placing of signs at the outer end of the pier and the erection and painting of flag poles.

Work under contract of Nov. 27, 1929, with William H. Ellis and Son Company for repairs to the timber platforms, was completed Feb. 8, 1930, at a contract cost of \$1,711.44.

The furnishing and laying of a two-inch wearing surface of bitulithic pavement on portions of the pier floors, chiefly on the driveway on the second floor of the west shed, was completed Dec. 28, 1929, under contract of Nov. 27, 1929, with Reynolds Bros., Inc., at a contract cost of \$6,561.25.

Additional valves and indicator posts were placed on the fresh water and fire service mains of the pier under contract of Nov. 27, 1929, with M. De Sisto Company. The work was completed Mar. 27, 1930, at a contract cost of \$1,379.96.

In December complaint was received from the White Star Line that certain portions of the west berth adjacent to the pier were too shallow for deep draft vessels of that Line. As the soundings taken indicated shoals, a contract was made on Jan. 7, 1930, with the Bay State Dredging and Contracting Company to dredge the east and west docks at the pier to a depth of 40 feet at mean low water for the full length of the docks with a width of 30 feet alongside the pier and parallel to it, at a contract price of 84.5 cents per cubic yard. The work was completed July 1, 1930, at a contract cost of \$21,346.39.

Steel office partitions were placed in Room 350, on the second floor mezzanine on the east side of the pier, under contract of Dec. 24, 1929, with E. F. Hauserman Company, Inc., at a contract price of \$1,816. This work was completed Jan. 24, 1930.

At the request of the Waldorf System, Inc., now operating the restaurant at the pier, a refreshment booth near the main entrance to the Registry of Motor Vehicles was built under contract of Jan. 7, 1930 with Carl S. Helrich, at a contract cost of \$887.74. This work was completed Feb. 1, 1930.

On Apr. 29, 1930, a contract was made with Hill and Delaney for the removing of existing doors and frames from nine doors leading to the open observatory on the second floor of the outer end of the pier, for their replacement by new doors and frames, and for the reglazing of broken lights of glass in adjacent Fenestra sash. This work was completed June 2, 1930, at a contract cost of \$1,179.

The removal of the 2-inch plaster wall above the second floor at the harbor end of the pier, the construction of a new wall of gunite slab, the repairing and waterproofing of the fenestra sash in a part of the walls at the sides and at the end, and the installation of steel plates to serve as water drips over certain windows on the sides of the pier, were authorized by contract of June 10, 1930, with Maurice M. Devine. This work was completed July 30, 1930, at a contract cost of \$5,005.26.

It has become necessary this year to provide additional offices at the pier for the use of the engineering force and to make additions and alterations to the offices occupied by the Registry of Motor Vehicles. On Aug. 26, 1930, a contract was made with Carl S. Helrich to build additions to the engineering offices at an estimated cost of \$18,067.50. This work is now nearing completion. A contract dated Sept. 2, 1930, has been made with M. Slotnick Company for additional offices and for alterations to offices at the Registry. This work was completed Nov. 21, 1930, at a contract cost of \$15,608.09.

#### *Ramp and D Street*

Work under contract of Nov. 27, 1929, with M. De Stefano and Sons, Inc., for relaying the present granite blocks on a concrete base, resetting the curbing



and relaying the brick sidewalks over the solid filled portion of the ramp connecting the Viaduct with D Street and over that portion of D Street between the ramp and Northern Avenue, was completed Apr. 11, 1930, at a contract cost of \$15,738.18.

#### *Development of Land South of Summer Street*

During the year the seven sections in Storehouse No. 1 on E Street, and sections J and K of Storehouse No. 2 on D Street, have been occupied by the Wiggin Terminals, Inc. Section H of Storehouse No. 2 is used by the Economy Grocery Stores Corporation under lease of May 24, 1929, for a term of five years from June 1, 1929. The remaining sections of Warehouse No. 2 are used by the Department.

Work under contract of Nov. 27, 1929, with Maurice M. Devine for placing a cement plaster surfacing one-half inch thick on the tile walls of sections H, J and K, was completed May 21, 1930, at a contract cost of \$1,046.89.

On May 6, 1930, a contract was made with Michael Solimando to rebuild 700 linear feet of the timber platform on the westerly side of Storehouse No. 1. The work was completed July 15, 1930, at a contract cost of \$8,166.08.

Other miscellaneous repairs have been made, including work upon the fire sprinkler system and upon the roofs of the warehouses.

#### *Northern Avenue Sea Wall*

The settlement of the stone riprap along the front of the sea wall bordering Northern Avenue easterly of the Fish Pier, made necessary this year the placing of additional riprap to protect the pile foundations of the wall. On Nov. 18, 1930, a contract was made with William Farrell to furnish and place about 600 tons of stone riprap along the toe of the wall, at a contract price of \$4.73 for each ton of riprap in place. This work is now in progress.

#### *Grasselli Wharf*

The lease to the Grasselli Chemical Company of a parcel of land and a wharf, with the adjacent dock, at South Boston, for a term of ten years, expired Apr. 30, 1930.

Under date of Oct. 1, 1930, this property and an adjacent wharf, with the dock between the wharves, were leased to the Atlantic Radio and Marine Company, Inc., until Mar. 31, 1935, with an option of renewal for a further period of five years at the expiration of the present term.

A contract was made Oct. 28, 1930, with Maurice M. Devine for furnishing labor and equipment for painting by spraying under compressed air the exterior of the piershed on this wharf, and the exterior of the garage under the viaduct, for the lump sum of \$595. This work is now in progress.

#### *Staples Wharf*

The wharf belonging to the Commonwealth at South Boston, formerly leased to the Staples Coal Company, has been for some time in need of repair. During the year negotiations begun by the Boston Fish Market Corporation for the use of the premises made it advisable to put the property into better condition.

A contract was made on July 15, 1930, with the J. S. Packard Dredging Company for dredging the westerly dock to a depth not less than 16 feet at mean low water at the following prices: for dredging and disposing of the dredged material, 50 cents per cubic yard scow measurement; for removing and disposing of boulders, \$15 per cubic yard. This work was completed on Aug. 29, 1930, at a contract cost of \$3,040.50.

On July 15, 1930, a contract was made also with the Bay State Dredging and Contracting Company for furnishing, placing and fastening fender logs on the west side of the wharf, at the following prices: for furnishing, preparing and placing floating fender logs, \$3.53 per linear foot of fender log in place; for furnishing and attaching each chain complete, \$52 for each chain placed in the work. This work was completed Sept. 11, 1930, at a contract cost of \$1,426.75.

Proposals were received Nov. 25, 1930, for replacing and fitting fender piles,

main piles, girder caps and stringers and for repairs to the deck planking at this pier. No contract has yet been executed for this work.

## THE COMMONWEALTH FLATS AT EAST BOSTON

### *Aircraft Landing Field*

The greater part of the area reclaimed by the Commonwealth at East Boston is now occupied by the City of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the City approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930.

The use of these areas by the City is, however, subject to certain rights of occupancy and use granted by previous agreements to the Federal Government. The lease to the War Department under date of June 3, 1922, has been renewed to June 30, 1931, in accordance with the terms of a supplementary agreement made Dec. 27, 1926, extending the renewal option to June 30, 1937, by yearly renewals. To the Navy Department a lease of June 16, 1924, gives the option of continuing by annual renewals the use of its present area to June 30, 1932. •

### *Reclamation of Flats*

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that time and Nov. 30, 1930, approximately 1,990,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1930, approximately 160,000 cubic yards were deposited upon flats northerly of Governor's Island. The Commonwealth has now reclaimed about 150 acres of land at East Boston.

During the year conferences have been held with the city authorities and with other organizations interested in the extension of the reclamation work for the purpose of making a larger area available for the Airport. On account of the large expenditure involved the Department has been unable to make definite plans in the matter. The city of Boston under authority of a license granted in October, has, however, begun filling an area in tide water adjacent to the easterly boundary of the Airport.

### *Commonwealth Pier No. 1, East Boston*

During the year the east and west docks of the pier have been used by the Eastern Steamship Lines, Inc., for their steamers not in service.

No major repairs to the pier have been needed this year.

## AREAS IN TIDE WATER CEDED TO FEDERAL GOVERNMENT

Three tracts of tide water land of the Commonwealth in Boston Harbor were conveyed by the Department under date of October 1, 1930, to the Superintendent of Lighthouses to be used for the erection and maintenance of lights as aids to navigation. An area at Pig Rock, near the entrance to Weymouth Fore River in Hull; a tract at Peddock's Island Channel Light No. 2, near Sunken Ledge Beacon, in Hull, and one at Fore River Channel Light No. 2A on Weymouth Fore River, Weymouth, were ceded by this action to the Federal Government.

## BIRD ISLAND ANCHORAGE BASIN

During the year further repairs became necessary to dolphins at this basin. On Mar. 18, 1930, a contract was made with A. A. Hersey and Son Company to replace old and broken oak piles in dolphins "A" and "B" and to rebind the two dolphins with wire rope, at the following contract prices: for removing old piles and furnishing, driving and fitting new oak piles, including all incidental work, \$74 for each pile removed and replaced; for furnishing and binding each dolphin with wire rope, including all incidental work, \$33.50 for binding each dolphin. This work was completed May 14, 1930, at a contract cost of \$733.



### GRAND JUNCTION WHARVES OR CUNARD DOCKS

Early in the year complaints were received by the Department regarding shoal spots in the area between the Cunard docks and the main ship channel in Boston Harbor, and requests were made for dredging to deepen the area.

On July 15, 1930, a contract was made with the Bay State Dredging and Contracting Company to dredge the area between the Cunard docks and the main ship channel to a depth of 35 feet at mean low water, at the following prices: for dredging and disposing of dredged material, 44.5 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress.

### INDIA, CENTRAL AND LONG WHARVES

Hearing was held Jan. 29, 1930, upon a petition of the Eastern Steamship Lines, Inc., for dredging the area between the main ship channel in Boston Harbor and wharves used by the steamships of the petitioner. In the following month the owners of Lewis Wharf, Long Wharf and Commercial Wharf asked for dredging between these wharves and the main ship channel. The expenditure involved was too large to allow the Department to carry out more than a part of the work requested.

On July 15, 1930, a contract was made with the Bay State Dredging and Contracting Company to dredge an area between India, Central and Long Wharves and the main ship channel to a depth of 25 feet at mean low water, at the following prices: for dredging and disposing of the dredged material, 36 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress.

### DREDGING OPPOSITE U. S. IMMIGRATION STATION

In March the Department received a request from the Bethlehem Shipbuilding Corporation, Ltd., for dredging southerly of the Simpson Works at East Boston to remove a shoal area in front of the U. S. Immigration Station. This shoal, a part of the westerly end of Bird Island Flats, interfered with the safe and convenient access of shipping to the floating dry dock of the corporation.

On Sept. 2, 1930, a contract was made with the Bay State Dredging and Contracting Company to dredge this shoal area to a depth of 18 feet at mean low water for a distance of approximately 800 feet and a width of 150 feet, at the following prices: for dredging and disposing of the dredged material, 55 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress. Toward the cost of the dredging a contribution of \$10,000 was made by the Bethlehem Shipbuilding Corporation, Ltd.

### HOUGH'S NECK, QUINCY

Hearing was held on Jan. 29, 1930, upon the petition of the Mayor of Quincy, and others, for dredging a channel with basins at its inner end, in front of the Yacht Clubhouse and the public landing at Hough's Neck.

On Nov. 25, 1930, a contract was made with the Bay State Dredging and Contracting Company to dredge a channel 60 feet wide and about 1,200 feet long to a depth of 8 feet at mean low water, a basin approximately 350 feet long and 150 feet wide to a depth of 8 feet at mean low water, and a basin 300 feet long and 150 feet wide to a depth of 6 feet at mean low water. The contract prices for the work are: for dredging and disposing of dredged material, 49 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard.

Toward the cost of this dredging a contribution of \$4,000 has been made by the city of Quincy. The work is now in progress.

### NEPONSET RIVER, BOSTON

A contract was made on Nov. 5, 1930, with the Bay State Dredging and Contracting Company to dredge an area in Neponset River in front of property of



the Frost Coal Company to a depth of 10 feet at mean low water, and a channel from the northeasterly end of the area to a depth of 13 feet at mean low water. The contract prices for the work are: for dredging and disposing of dredged material, 74 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. Dredging under this contract has not yet begun.

#### SAVIN HILL BAY AND DORCHESTER BAY DREDGING

Dredging under contract of July 16, 1929, with the Trimount Dredging Company was completed July 10, 1930, at a contract cost of \$116,967.20.

In carrying out the work in accordance with the provisions of Chapter 317 of the Acts of 1929, a steep bank was left by the hydraulic dredge at Coulter's Beach on Freeport Street. As this created a condition dangerous for children using the beach, it was necessary to fill the depressions and provide an even slope at this shore.

On Nov. 25, 1930, a contract was made with Henry N. Worthington to furnish and place about 3,000 cubic yards of sand or sand and gravel at Coulter's Beach at a contract price of \$1.20 for each cubic yard placed. This work is now in progress.

The statute authorizing the dredging provides that of the appropriation of \$147,500 made for the work, the sum of \$28,125 is to be paid from the Port of Boston receipts, and the remainder, considered a part of the cost of the Old Colony Boulevard, is to be divided so that \$59,687.50 is paid from the Highway Fund and an equal amount assessed upon the cities and towns of the Metropolitan District.

#### TOWN RIVER, QUINCY

The work of dredging in Town River under contract of Sept. 17, 1929, with the Bay State Dredging and Contracting Company was completed Mar. 7, 1930, at a contract cost of \$54,325.81. Toward this cost a contribution of \$14,750 was made by the city of Quincy before the work began. During the progress of the dredging additional contributions were made of \$900 by Hester K. Butts and of \$400 by F. D. Lawley, Inc.

#### WEIR RIVER, HULL

Hearing was held Jan. 29, 1930, upon the petition of the Selectmen of Hull for the deepening of the channel in Weir River from Hingham Bay to the wharf of the Nantasket Beach Steamboat Company.

On Apr. 1, 1930, a contract was made with the Bay State Dredging and Contracting Company to dredge the channel in the river to a depth not less than 15 feet at mean low water from a point opposite the westerly end of World's End to the basin at the steamboat wharf of the Nantasket Beach Steamboat Company, to provide a channel 160 feet wide throughout to the full depth of 15 feet at mean low water. The contract prices for the work were: for dredging and disposing of dredged material, 45 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This dredging is not yet completed. Toward the cost of the work a contribution of \$20,000 was made by the town of Hull.

#### EXCHANGE OF AREAS BETWEEN THE CITY OF BOSTON AND THE COMMONWEALTH

Under the provisions of Chapter 264 of the Acts of 1928, an exchange of land and flats at Marine Park, South Boston, was made by deed of May 21, 1930, from the Commonwealth and deed of May 27, 1930, by the City. This exchange, which has been under negotiation for some years, gives the Commonwealth better access for industrial development to its land southerly of the Reserved Channel and between Marine Park and Castle Island, and gives to the City access to Castle Island and opportunity to extend the development of its park property.

The deed from the Commonwealth grants also to the City portions of Fargo and E Streets at South Boston, upon condition that the City will lay out, construct and pave the areas conveyed.

The Department, acting under authority of Section 2 of Chapter 371 of the Acts of 1929, conveyed to the city of Boston by another deed of May 21, 1930,



two parcels of land at Nashua and Leverett Streets, Boston, for playground, bathing or similar purposes.

These deeds were exchanged June 25, 1930, with an agreement dated May 27, 1930, by the Mayor of Boston regarding the work in E and Fargo Streets, and with a check for \$25,000 from said City to the Commonwealth.

## RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$175,000 was made during 1930, with the following condition:—

“provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$40,000 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Bass River, Dennis and Yarmouth; Brant Rock, Marshfield; Cedar Point, Scituate; Centerville River, Barnstable; Cohasset Harbor, Cohasset; Connecticut River, Deerfield; Falmouth Heights, Falmouth; Herring River, Harwich; Lake Anthony, Oak Bluffs; Lake Tashmoo, Tisbury; Manchester Harbor, Manchester; Marion Harbor, Marion; Merrimack River, Newburyport; Phinney's Harbor, Bourne; Plymouth Harbor, Plymouth; Rock Harbor, Orleans; Rockport Harbor, Rockport; Scituate Harbor, Scituate; Waquoit Bay, Falmouth and Mashpee.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Cedar Point, Scituate; Cohasset Harbor, Cohasset; Connecticut River, Deerfield; Lake Anthony, Oak Bluffs; Lake Tashmoo, Tisbury; Marion Harbor, Marion; Merrimack River, Newburyport; Phinney's Harbor, Bourne; Rockport Harbor, Rockport; Waquoit Bay, Falmouth and Mashpee.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works and in the tables of the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth, and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1930 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, follows:

### ALLEN'S HARBOR, HARWICH

Hearing was held on Jan. 29, 1930, upon the petition of E. Donald Dodge for dredging at the entrance to Allen's Harbor. At this hearing the Selectmen explained that an article had been inserted in the town warrant for the annual meeting to provide for a contribution toward the cost of dredging and of placing riprap at the northerly end of the jetty.

An examination by the engineer showed the necessity for repairs and for further protective work. On Nov. 12, 1930, a contract was made with Joseph W. Nickerson to furnish materials and to construct a timber fence about 100 feet long, to furnish and place about 70 tons of stone riprap in front of the timber fence, and about 50 yards of sand as backfilling against said fence, and to place about

400 tons of stone riprap along the easterly bank northerly of the east jetty for a distance of about 250 feet. The contract prices for this work are: for each linear foot of fence measured in place, including the furnishing of all labor and materials and the performing of all excavation, backfilling and incidental work, the sum of \$6.00; for each ton of riprap furnished and placed, including all grading and incidental work, the sum of \$4.65.

Toward the cost of this work a contribution of \$1,600 has been made by the town of Harwich. The work is now in progress.

Amount expended during the year, \$267.55. Total expenditure to Dec. 1, 1930, \$26,733.27.

ANNISQUAM RIVER, GLOUCESTER

During May a complaint was received from the Gloucester Chamber of Commerce concerning an obstruction encountered by vessels in mid channel north of the Boston and Maine Railroad Bridge. Investigation showed that a boulder about 6 feet long, 3 feet wide, and 4½ feet high had in some way been deposited in the channel after the completion of the dredging in 1929.

On June 20, 1930, a letter contract was made with Hall Brothers for the removal of the boulder. The work was completed July 9, 1930, at a contract cost of \$400.

Amount expended during the year, \$523.49. Total expenditure to Dec. 1, 1930, \$171,498.69.

BASS RIVER, DENNIS AND YARMOUTH

The work of building an extension to the easterly jetty at Bass River, under contract of Nov. 19, 1929, with the Bay State Dredging and Contracting Company, was completed May 3, 1930, at a contract cost of \$24,318.45.

On July 15, 1930, a contract was made with the Bay State Dredging and Contracting Company for dredging a channel 100 feet wide on the bottom and 6 feet deep at mean low water from the 6-foot contour in Nantucket Sound through the outer bar at the entrance to Bass River, for removing certain bars and shoals in the channel from the jetties to a point near the first highway bridge, and for dredging two anchorage basins on the Dennis shore of said river, at the following contract prices: for dredging channel and shoals and disposing of dredged material, 58 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard; for dredging anchorage basins and disposing of dredged material, 55 cents per cubic yard, scow measurement.

This work was completed Oct. 16, 1930, at a contract cost of \$39,249.28.

Contributions toward the cost of these projects have been made as follows:

Town of Dennis . . . . .	\$10,000 00
Town of Yarmouth . . . . .	10,000 00
Individuals . . . . .	95 00

This dredging has provided a channel 100 feet wide, 1,000 feet long and 6 feet deep at mean low water from the entrance of Bass River into Nantucket Sound, has removed four shoals to a depth of 6 feet at mean low water from the river, and has given two anchorage basins on the Dennis shore in the upper part of the river below the highway bridge. These basins within the six foot contour have a total area of 4.39 acres.

Amount expended during the year, \$59,564.85. Total expenditure to Dec. 1, 1931, \$176,526.08.

BRANT ROCK, MARSHFIELD

The storm of Oct. 22 and 23, 1930, destroyed timber bulkheads and seriously weakened other protective work constructed by owners of property along the section of shore forming a promontory into the bay northerly of the sea wall built by the Commonwealth in 1924. To prevent further destruction and disastrous erosion of the shore during the winter, it became necessary to undertake some work at once.

A contract was accordingly made on Nov. 25, 1930, with Philip B. Oakman to



place about 300 tons of heavy stone riprap and about 100 tons of stone chips to protect approximately 125 linear feet of bank and timber bulkhead, at a contract price of \$3.85 per ton for stone in place. This work is now in progress.

Amount expended during the year, \$1,671.58. Total expenditure to Dec. 1, 1930, \$26,427.66.

#### CENTERVILLE RIVER, BARNSTABLE

Hearing was held on Jan. 29, 1930, upon a petition of the Selectmen of Barnstable, and others, for a survey and for the dredging of a channel from Gaff's Bridge eastward to a point near the Centerville Beach Club.

On July 22, 1930, a contract was made with the Trimount Dredging Company for dredging by hydraulic process a channel 5 feet deep at mean low water, 50 feet wide on the bottom and about 4,700 feet long, in Centerville River at Centerville, at the following contract prices: for dredging the channel and disposing of excavated material upon the marsh, upland and beach in specified locations, including the construction of necessary dikes and sluices, 35 cents per cubic yard measured in place; for removing and disposing of boulders, \$10 per cubic yard.

Toward the cost of this dredging a contribution of \$10,000 was made by the town of Barnstable, and of \$4,211.50 by individuals interested. No work has begun under this contract.

Amount expended during the year, \$679.37. Total expenditure to Dec. 1, 1930, \$8,282.59.

#### DUXBURY HARBOR, DUXBURY

Hearing was held Jan. 29, 1930, upon the petition of the Selectmen of Duxbury, and others, for dredging to remove shoals and to enlarge the present channel and basin in Duxbury Harbor.

On Mar. 18, 1930, a contract was made with the Bay State Dredging and Contracting Company for dredging an area in Duxbury Bay, a portion to a depth of 6 feet at mean low water and a part to a depth of 8 feet at mean low water. The contract prices for this work were: for dredging and disposing of the dredged material, 52 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. Work was completed May 23, 1930, at a contract cost of \$48,084.64. By this dredging the area of the anchorage basin in this harbor has been increased to a total of 10.8 acres.

Toward the cost of the work a contribution of \$25,000 was made by individuals and organizations interested.

Amount expended during the year, \$49,837.76. Total expenditure to Dec. 1, 1930, \$92,653.35.

#### FALMOUTH INNER HARBOR

Hearing was held Jan. 29, 1930, upon the petition of the Selectmen of Falmouth for dredging in Falmouth Inner Harbor.

On May 13, 1930, a contract was made with William E. Burke for dredging about 10,000 cubic yards in the entrance channel to this harbor, to make the channel 100 feet wide on the bottom and 10 feet deep at mean low water and the basin area 6 feet deep at mean low water. The contract prices for the work were: for dredging and disposing of dredged material, 45 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. The dredging was completed May 25, 1930, at a contract cost of \$4,230.90. Toward the cost of the work a contribution of \$2,500 was made by the town of Falmouth.

As the condition of the jetties at this harbor made repairs necessary, the work was carried out under three contracts. In accordance with a letter contract of May 16, 1930, with William E. Burke, about 50 tons of heavy stone riprap were placed in the westerly jetty at a contract cost of \$475.

Under a letter contract of the same date with Arthur K. Finney about 230 tons of stonechips were placed back of the timber fence easterly of the east jetty at a contract cost of \$1,329.13.

In July another letter contract was made with Arthur K. Finney to place a

timber capping upon the timber fence. The work was completed July 31, 1930, at a contract cost of \$75.

Amount expended during the year, \$6,622. Total expenditure to Dec. 1, 1930, \$150,396.26.

#### FALMOUTH SHORE PROTECTION

A petition was received in February from the Park Commissioners of Falmouth for the construction of a stone jetty extending seaward from the concrete sea wall built by the Commonwealth along Grand Avenue at Falmouth Heights.

A contract was made on Apr. 15, 1930, with Arthur K. Finney for building a stone jetty and placing riprap in front of an existing concrete wall at Falmouth Heights, at the following contract prices: for furnishing and placing heavy stone and granite chips in jetty, \$4.79 for each ton of 2,000 pounds; for furnishing and placing heavy stone riprap in front of the existing concrete sea wall, \$4.79 for each ton of 2,000 pounds. This work was completed July 15, 1930, at a contract cost of \$11,965.76. Toward this cost a contribution of \$5,987.50 was made by the town of Falmouth.

Amount expended during the year, \$12,704.58. Total expenditure to Dec. 1, 1930, \$70,667.71.

#### GLOUCESTER INNER HARBOR

Hearing was held on Jan. 29, 1930, upon the petition of the Gloucester Maritime Association, and others, for dredging in Gloucester Inner Harbor.

On May 6, 1930, a contract was made with the Bay State Dredging and Contracting Company for dredging a channel 100 feet wide on the bottom to a depth of 17 feet at mean low water in this harbor, at the following contract prices: for dredging channel and disposing of dredged material, 39.8 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This dredging was completed Oct. 7, 1930, at a contract cost of \$29,228.72. Toward the cost of the work a contribution of \$7,500 was made by the city of Gloucester.

Amount expended during the year, \$29,792.06. Total expenditure to Dec. 1, 1930, \$148,786.71.

#### GREEN HARBOR, MARSHFIELD

Hearing was held on Jan. 29, 1930, upon the petition of the Selectmen of Marshfield, and others, for dredging and for repairs to the jetties at Green Harbor.

The estimated cost of the work requested would require so large a contribution from the town, that legislation was necessary. By Chapter 199 of the Acts of 1930, the town was authorized to borrow not exceeding \$40,000 to pay its share of the cost of dredging and filling certain shore areas and constructing other necessary works at Green Harbor to improve the harbor for navigation and reclaim land for use as an aviation field. At a special town meeting held Sept. 5, 1930, the town voted to accept the provisions of the Act.

The funds necessary to carry out the entire project have not been available this year. The condition, however, of the westerly jetty at the harbor entrance made it necessary to undertake some work for its protection before the coming of the winter storms. On Oct. 14, 1930, a contract was made with Owen W. Duffy Company to furnish material and build a timber fence about 660 feet long on the westerly side of the westerly jetty at the entrance to Green Harbor, at a contract price of \$5.50 for each linear foot of fence measured in place, including the furnishing of all labor and materials and the performing of all excavation, back-filling and incidental work. This work is now in progress.

Toward the cost of the work a contribution of \$2,500 has been made by the town of Marshfield.

Amount expended during the year, \$2,404.91. Total expenditure to Dec. 1, 1930, \$79,036.95.



### GUN ROCK-GREEN HILL SEA WALL, HULL

The work under contract of Nov. 19, 1929, with Bradford Weston for the construction of three spur jetties in front of the sea wall, was completed Dec. 17, 1929, at a contract cost of \$520.80.

Amount expended during the year, \$578.87. Total expenditure to Dec. 1, 1930, \$38,485.08.

### HERRING RIVER, HARWICH

Hearing was held Jan. 29, 1930, upon the petition of the Selectmen of Harwich for dredging and for jetty extension in Herring River.

On Aug. 26, 1930, a contract was made with the Trimount Dredging Company for dredging a channel 60 feet wide on the bottom and 6 feet deep at mean low water from the 6-foot contour in Nantucket Sound to the steel highway bridge over Herring River. The contract prices for this work are: for dredging channel and disposing of excavated material on the marsh and flats adjacent to the work, including the construction of necessary dikes and the removal of a section of the lower county bridge, 58 cents per cubic yard; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress. Toward the cost of the dredging a contribution of \$13,000 was made by the town and one of \$12,600 by individuals interested.

While this dredging was being carried on a request was made to the Department for the excavation of an anchorage basin below the Lower County Bridge. On Nov. 25, 1930, a contract was made with the Trimount Dredging Company to dredge an anchorage basin in the location desired to a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material on marsh and flats adjacent to the work, including the construction of necessary dikes, 40 cents per cubic yard; for removing boulders, \$20 per cubic yard. This work is now in progress. Toward the cost of the dredging a contribution of \$4,000 was made by William H. Doble.

Amount expended during the year, \$27,820. Total expenditure to Dec. 1, 1930, \$86,001.14.

### MANCHESTER HARBOR, MANCHESTER

Hearing was held on Jan. 29, 1930, upon the petition of the Selectmen of Manchester for dredging to deepen the inlet just north of Tucks Creek in Manchester Harbor.

On Apr. 15, 1930, a contract was made with the Bay State Dredging and Contracting Company for dredging an area in this harbor to a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of dredged material, 43 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work, comprising the excavation of an anchorage basin of 1.7 acres, was completed June 14, 1930, at a contract cost of \$11,930.89. Toward the cost of the dredging a contribution of \$6,500 was made by the town of Manchester.

Amount expended during the year, \$12,518.91. Total expenditure to Dec. 1, 1930, \$176,295.48.

### NEW BEDFORD STATE PIER

The larger portion of this pier has been, since September, 1927, under lease to the Lampart Manufacturing Supply Company, Inc.

The lease provides for the use by the Company of a specified portion of the pier for a period of ten years beginning Sept. 1, 1927, at a rental of \$6,000 per year for the first five years, and of \$10,000 per year for the five years following. The Company agrees by the terms of the lease to provide reasonable facilities for vessels desiring to use the present unenclosed area of the pier for water-borne commerce, as well as reasonable accommodation for loading and unloading cargo. The charges made for such uses of the pier are to be those established by the Department, effective since July 15, 1925.

During the year minor repairs to buildings on the pier have been made, comprising the replacing of galvanized iron flashing on a portion of the timber shed with copper flashing and the repairing of the deck of timber platforms.

Two transportation companies have occupied space this year in the Immigration Shed, the only building in the pier not included in the lease to the Lamport Manufacturing Supply Company, Inc.

Amount expended for operation and maintenance during the year, \$2,474.46.

Income during the year, \$7,621.58. Total expenditure for operation and maintenance to Dec. 1, 1930, \$53,188.55.

#### COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$6,000 was made by the Legislature this year for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The work of replacing the timber deck of the State Pier was continued under a letter contract of Apr. 1, 1930, with George W. Starbuck by which labor and equipment were furnished by the contractor and material by the Commonwealth. The contract was completed May 3, 1930, at a cost of \$821.95 for labor and equipment.

Under a letter contract of Apr. 9, 1930, with Arthur K. Finney oak fender piles were driven at the State Pier at a contract cost of \$385.70.

On Nov. 25, 1930, a contract was made with Domenik Romano to furnish materials and to build three concrete walks and a gravel walk, and to set about 430 linear feet of straight granite curbing and about 72 linear feet of curved granite curbing on the driveway leading to the State Pier. The contract prices for this work are: for straight granite curbing set in place, \$2.05 per linear foot; for curved granite curbing set in place, \$2.25 per linear foot; for concrete walk complete in place, \$2.25 per square yard; for gravel walk complete in place, \$1.25 per square yard.

Amount expended during the year, \$4,609.23. Total expenditure to Dec. 1, 1930, \$35,687.08.

#### PLYMOUTH HARBOR, PLYMOUTH

Hearing was held Jan. 29, 1930, upon the petition of the Selectmen of Plymouth, and others, for dredging in Plymouth Harbor.

On May 20, 1930, a contract was made with the Bay State Dredging and Contracting Company for dredging an area in Plymouth Harbor to a depth of 6 feet at mean low water at the following contract prices: for dredging and disposing of the dredged material, 51 cents per cubic yard, measured in scows; for removing and disposing of boulders, \$20 per cubic yard. Work was completed Nov. 20, 1930, at a contract cost of \$39,810.46. Under this contract an anchorage basin of 5.7 acres was excavated. Toward the cost of the dredging a contribution of \$16,500 was made by the town of Plymouth and one of \$4,500 by the Pilgrim Yacht Club.

Amount expended during the year, \$35,868.73. Total expenditure to Dec. 1, 1930, \$318,555.35.

#### PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for the use of the Province Lands. One employee of the Department has been kept at work during the summer to maintain this park in proper condition.

Under date of Mar. 11, 1930, the Department conveyed by deed to the town of Provincetown for highway purposes four parcels of land acquired by the Provincetown Tercentenary Commission.

#### ROCK HARBOR, ORLEANS

Hearing was held Jan. 29, 1930, upon a petition of Charles R. Richardson, and others, for the removal of shoals and for dredging to extend the present entrance channel to Rock Harbor.



An examination made by the engineer indicated that the shoaling could be checked by removing certain excavated material placed upon the bank of the creek during previous dredging. On Apr. 2, 1930, a letter contract was made with Frank H. Barry for the removal of a part of this material and its distribution over the marsh. This work was completed April 30, 1930, at a contract cost of \$539.25.

Amount expended during the year, \$596.55. Total expenditure to Dec. 1, 1930, \$20,667.51.

#### SCITUATE HARBOR, SCITUATE

Hearing was held Jan. 29, 1930, upon the petition of the Selectmen of Scituate, and others, for the dredging of anchorage basins in Scituate Harbor.

On Apr. 29, 1930, a contract was made with the Bay State Dredging and Contracting Company to dredge two areas in Scituate Harbor, one to a depth of 6 feet at mean low water, the other to a depth of 12 feet at mean low water, at the following contract prices: for dredging and disposing of dredged material, 53 cents per cubic yard, scow measurement, for one area, and 75 cents per cubic yard, scow measurement, for the other; for removing and disposing of boulders, \$20 per cubic yard. At the completion of the work on Aug. 7, 1930, the area of the anchorage basin had been increased 3.19 acres and the width of the entrance channel increased about 100 feet, at a contract cost of \$39,117.99. Toward the cost of the dredging a contribution of \$20,000 was made by the town of Scituate.

Amount expended during the year, \$40,217.16. Total expenditure to Dec. 1, 1930, \$205,865.94.

#### SCITUATE SEA WALLS

An examination in February of the sea walls at the Glades at North Scituate, indicated that the erosion of the beach during the winter had made necessary the placing of stone riprap along the toe of the wall. Under letter contract of Feb. 19, 1930, with Frank H. Barry this work was done at a contract cost of \$1,203.42.

Amount expended during the year, \$1,379.92.

#### WEST BAY, BARNSTABLE

Complaints were received by the Department in May regarding shoals in the entrance channel to West Bay. On July 11, 1930, a letter contract was made with the Bay State Dredging and Contracting Company for dredging about 4,500 cubic yards of material from the entrance channel, at a contract price of 58 cents per cubic yard. This dredging was completed July 22, 1930, at a contract cost of \$4,326.22. Toward this cost contributions amounting to \$1,128.07 were made by individuals interested.

Amount expended during the year, \$4,585.73. Total expenditure to Dec. 1, 1930, \$114,517.57.

#### WEST HARWICH SHORE PROTECTION

Work under contract of Oct. 29, 1929, with Edward E. Crowell and Isaiah Kelley for constructing about 2,250 linear feet of wire fence with spur jetties along the beach at West Harwich, was completed Feb. 24, 1930, at a contract cost of \$5,728.10.

Because of erosion during the spring along the beach at the location of the wire fence, about 230.95 tons of stone chips were placed back of the structure to check further damage. The cost of this work was \$543.19.

Amount expended during the year, \$6,934.89. Total expenditure to Dec. 1, 1930, \$20,428.30.

#### WILD HARBOR, FALMOUTH

Hearing was held Jan. 29, 1930 upon the petition of Edward N. Dahlborg, and others, for dredging in Wild Harbor.

On May 6, 1930, a contract was made with the Trimount Dredging Company for redredging the entrance channel and anchorage basin in Wild Harbor to a depth of 6 feet at mean low water and the enlargement of the basin

on the northerly and westerly sides, at the following contract prices: for dredging and disposing of the material on the shore, 57 cents per cubic yard, measured in situ; for removing and disposing of boulders, \$20 per cubic yard. Toward the cost of this dredging a contribution of \$5,000 was made by the town of Falmouth and a contribution of \$5,000 by organizations and individuals interested.

The work under this contract is now in progress and will provide, when completed, an anchorage basin of 2.7 acres with a depth of at least 6 feet at mean low water.

Amount expended during the year, \$13,971.81. Total expenditure to Dec. 1, 1930, \$50,351.36.

WITCHMERE HARBOR, HARWICH

A survey of the entrance channel at Witchmere Harbor indicated considerable shoaling between the jetties near the outer end of the structures. On Nov. 5, 1930, a contract was made with William E. Burke for dredging the entrance channel to this harbor to a depth of 6 feet at mean low water and a width of 60 feet on the bottom, at the following contract prices: for dredging and disposing of the dredging material, 60 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress.

Amount expended during the year, \$253.44. Total expenditure to Dec. 1, 1930, \$55,795.13.

MISCELLANEOUS

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Stockbridge; Bateman's Pond, Concord; Benson's Pond, Middleborough; Billington Sea, Plymouth; Cedar Dell Pond, Dartmouth; Cedar Pond, Carver; Coonamesset Pond, Falmouth; Crosman's Pond, Kingston; Dunham Pond, Carver; Forest Lake, Methuen; Great Herring Pond, Plymouth; Great Pond, Otis; Harmon Pond, New Marlborough; Lake Archer, Wenham; Lake Mahkeenac or Stockbridge Bowl, Stockbridge; Lake Massapoag, Sharon; Lake Nippenicket, Bridgewater; Lake Tashmoo, Tisbury; Lake Winthrop, Holliston; Larkum Pond, Otis; Little Alum Pond, Brimfield; Little Sandy Pond, Pembroke; Lovell's Ponds, Barnstable; Manchaug Lake, Douglas and Sutton; Maquan Pond, Hanson; Mary's Pond, Rochester; North Pond, Hopkinton and Milford; Nuttings Lake, Billerica; Oyster Pond, Edgartown; Round Pond, Falmouth; Skinequit Pond, Harwich; Spectacle Pond, Lancaster.

During the year, surveys of the following great ponds have been made: —

MANCHAUG LAKE, DOUGLAS-SUTTON

Area at time of survey	300.37 acres
Area of natural pond	193.36 acres
Area of flowed pond	412.3 acres

The area of this pond is divided between the two towns as follows: —

103.57 acres in Douglas  
89.79 acres in Sutton  
Maximum depth, 30.9 feet

Harmon Pond, New Marlborough

Natural pond area	23.06 acres
Maximum depth	40.0 feet



*North Pond, Hopkinton-Milford*

Area of flowed pond . . . . .	230 acres
Area of natural pond . . . . .	48.6 acres
Maximum depth . . . . .	16.3 feet

*Flax Pond, Yarmouth*

Natural pond area . . . . .	10.04 acres
Maximum depth . . . . .	31.7 feet

*Eagle Pond, Dennis*

Area of natural pond . . . . .	9.5 acres
Maximum depth . . . . .	28.2 feet

Amount expended during the year, \$2,780.87. Total expenditure to Dec. 1, 1930, \$16,653.

## ACCESS TO GREAT PONDS

During the year one petition relative to access to great ponds has been filed in accordance with the provisions of chapter 453 of the Acts of 1923.

A petition of ten citizens of the Commonwealth for the establishment of a right of way to Dunham pond was presented to the Department on Nov. 18, 1930, and has been assigned for public hearing before the joint board on Dec. 17, 1930. No further action will be taken until after the hearing.

## PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,800 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Five acres of sand dunes have been covered with brush and three acres of bayberry were transplanted to reinforce areas previously planted. In addition 20,000 native pines on the sod have been transplanted and 350,000 seedlings of Scotch and Austrian pines planted.

During the year a section of State Highway was extended across the Province Lands, connecting the road constructed in 1929, with the old State Highway leading north from Provincetown and so completing a circuit through the Province Lands.

In September and October a series of forest fires broke out on the Province Lands resulting in the burning of several hundred acres. The amount of damage caused to growing trees cannot be easily determined until Spring, but it will probably be necessary to replant trees on a portion of the area burned.

By Chapter 300 of the Acts of 1930 the Department is authorized and directed, for the purpose of preventing the breeding of mosquitoes in the Province Lands to lay out and construct a dike across Race Run, and to do such other work as may be necessary, in consultation with the State Reclamation Board, at an expenditure not exceeding \$20,000.

On July 15, 1930, a contract was made with Frank H. Barry to construct a sand, marsh sod and timber dike about 3,200 feet long across Race Run at a contract price of \$18,950. This work is now in progress.

The conveyance by the Commonwealth to the Federal Government of a tract of land not exceeding nine acres, located westerly of the northerly end of the State Highway at Sea View, is authorized by Chapter 386 of the Acts of 1930, for

the purpose of providing a site for a Coast Guard Station. Consultations have been held regarding the exact limits of the area desired by the Coast Guard, but no deed has yet been signed.

The sum of \$301.85 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying certain areas on these lands.

Amount expended during the year, \$19,705.64. Total expenditure to Dec. 1, 1930, \$145,777.92.

#### STATE BOUNDARY LINES

Chapter 1 of the General Laws, section 4, requires that the Department of Public Works shall in the year 1925 and in every fifth year thereafter inspect all monuments or other marks defining the location of the boundary lines of the Commonwealth and if any of them have been injured, displaced, removed, or lost, the Department shall, in cooperation with persons duly authorized by the adjacent state, restore them or replace them with suitable stone monuments and in the same manner set suitable stone monuments at points not properly marked where the state boundary is intersected by the boundary of any county, city, or town in the Commonwealth, or by a highway or railroad. If officers of adjoining States are required to make such inspection at other times, the Department may cooperate with them.

The perambulations of the boundary line between the Commonwealth of Massachusetts and the state of New York was made conjointly with William J. Henk, representing the state of New York, beginning July 8 and ending July 29, 1930. All the marks were visited between the dates mentioned and, with one exception, were found to be in good condition and properly set. One bound was reset in concrete and a small portion of the line cut out to facilitate finding the bound in the future.

The perambulation of the boundary line between the Commonwealth and the state of New Hampshire was made conjointly with Leslie C. Clark, representing the state of New Hampshire, between June 17, 1930, and July 3, 1930. All the marks were visited between the dates stated and were found, with one exception, to be in good condition and properly set. One monument was reset in concrete.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the state of Vermont was made conjointly with Willard E. Walker and Edward W. Northrop, representing the state of Vermont, between June 3 and August 31, 1930. All the marks were visited between the dates stated and, with three exceptions, were found to be in good condition and properly set. Three bounds were reset in concrete and a topographical sketch made of the location of Bound 5 showing an easy way to find the bound which has always been difficult to locate.

Perambulation of the boundary line between the Commonwealth of Massachusetts and the state of Rhode Island and Providence Plantations was made conjointly with Everett A. Kingsley, representing the state of Rhode Island, beginning September 10 and ending September 23, 1930. All the marks were visited between the dates stated and, with certain exceptions, found to be in good condition and properly set. The work of setting damaged monuments was in progress at the close of the fiscal year.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the state of Connecticut was made conjointly with Henry R. Buck, representing the state of Connecticut, beginning August 5 and ending August 20, 1930. All marks were visited between the dates mentioned and, with one exception, the bounds were found to be in good condition and properly set. One bound was reset in concrete.

#### TOWN BOUNDARY LINES

During the year, at the request of the towns of Eastham and Wellfleet, a portion of the boundary line between these towns where it crosses tide water and Billingsgate Island was redetermined and marked with witness monu-



ments set on the mainland and on Billingsgate Island. Also a portion of the boundary line between Newbury and Rowley was run where the line crosses Plum Island and Plum Island River.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, cooperation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$3,865.48.

An inspection made during the year of all gauging stations makes it clear that many old and delapidated ones need to be rebuilt. To rebuild old stations and maintain existing ones will require an increase of at least \$1,000 in the appropriation.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, chapter 91, General Laws, the Division is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed, and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation points were determined and permanently marked on the ground and geographical positions furnished to the Land Court: 4 stations in Norwood, 4 in Dennis, 8 in Brewster, 6 in Chatham, 18 in Nantucket and 2 in Bellingham. Amount expended during the year, \$914.36.

LICENSES AND PERMITS

During the year 139 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River and 110 permits for miscellaneous purposes. The Department also approved 83 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

DETAILS OF EXPENDITURES FOR WATERWAYS

FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR,  
1859-1930, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1929</i>	<i>1930</i>	<i>Total</i>
Boston Harbor . . . . .	\$1,313,279 49 <sup>1</sup>		
Dredging and filling . . . . .		\$64,289 45	
Maintenance of property . . . . .		751 06	
Special appropriation . . . . .		29,613 18	
Contribution . . . . .		10,000 00	\$1,417,933 18
Commonwealth Flats, East Boston	3,087,515 11 <sup>2</sup>		
Special appropriation . . . . .		5,811 72	3,093,326 83
Commonwealth Flats, South Boston	4,872,123 69	—	4,872,123 69
Castle Island . . . . .	737,384 19		
Dredging and filling . . . . .		1,437 52	738,821 71
Commonwealth Pier No. 5, South Boston			
Construction . . . . .	4,014,790 45		

<sup>1</sup> Contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921, \$4,000.00.  
<sup>2</sup> Appropriated by City of Boston in 1926, \$10,000.00.

<i>Payments</i>	<i>To Nov. 30, 1929</i>	<i>1930</i>	<i>Total</i>
Maintenance . . . . .	467,614 64	83,278 30	
Dredging . . . . .		22,050 36	
Operation and supervision . . . . .	1,306,307 53	107,852 41	6,001,893 69
Commonwealth Pier No. 1, East Boston			
Construction . . . . .	1,199,703 23		
Operation and supervision . . . . .	95,444 70	8,013 70	
Maintenance . . . . .	13,335 18		1,316,496 81
Commonwealth Pier No. 6, South Boston			
Construction . . . . .	1,092,149 06		
Maintenance . . . . .	51,937 90		1,144,086 96
Dry Dock . . . . .	3,169,651 15 <sup>1</sup>		3,169,651 15
Hayward Creek . . . . .	385,959 61 <sup>2</sup>		385,959 61
Mystic River . . . . .	428,463 41 <sup>3</sup>	433 76	428,897 17
Malden River . . . . .	32,268 70 <sup>4</sup>		32,268 70
Chelsea Creek . . . . .	60,519 88	42 00	60,561 88
Commercial Point, Dorchester Bay	53,213 10		53,213 10
Maintenance of Property of Commonwealth (in addition to maintenance items listed above)	258,666 76	52,295 63	310,962 39
	<u>\$22,640,327 78</u>	<u>\$385,869 09</u>	<u>\$23,026,196 87</u>

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1930, INCLUSIVE

<i>Locality and Character of Work</i>	<i>Contributions by Municipality or Others</i>	<i>Total Expenditure</i>
Cottage Park Channel, Winthrop, dredging . . . . .	\$1,000 00	\$22,012 08
Dorchester, Easterly Shore, dredging and survey . . . . .	1,000 00	206,271 02
Harbor View, dredging . . . . .	—	146 00
Hingham Harbor, dredging . . . . .	6,500 00	41,595 12
Houghs Neck Channel, Quincy, dredging . . . . .	7,500 00	30,092 76
Island End River, Everett, survey . . . . .	—	264 10
Jeffries Point Channel, dredging . . . . .	—	3,009 11
Mystic River (near Lawrence and Wiggin Wharf), dredging . . . . .	—	5,927 70
Neponset River, dredging . . . . .	10,000 00	102,302 10
Old Harbor Cove, dredging . . . . .	—	10,520 48
Orient Heights Channel, dredging . . . . .	—	45,412 38
Pemberton Point, Hull, breakwater . . . . .	60,000 00	90,520 98
Pleasant Park Yacht Club Channel, dredging . . . . .	3,000 00	14,513 92
Point Allerton, Hull, sea wall . . . . .	50,000 00	75,127 05
Point Shirley, Winthrop, dredging . . . . .	—	3,713 37
Quincy Bay, dredging . . . . .	7,150 00	71,263 17
Shirley Gut, Boston and Winthrop, dredging . . . . .	—	2,110 96
South Boston, Southerly Shore, dredging . . . . .	—	129,542 08
Stony Beach, Hull, sea wall . . . . .	—	12,326 09
Town River, Quincy, survey and dredging . . . . .	16,050 00	57,573 27

<sup>1</sup> \$17,877.73 additional paid by State Treasurer from Development of the Port of Boston Loan Sinking Fund in settlement of claims.

<sup>2</sup> Contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation, \$38,600; paid by State Treasurer for land taking, \$3,725.27.

<sup>3</sup> Contribution by Merrimac Chemical Company, 1920, \$15,000.00; 1922, \$4,182.50; contribution by Beacon Oil Co., 1920, \$50,000.00.

<sup>4</sup> Expended by United States Government, \$31,000; contribution by Standard Oil Company of New York, \$600.00.



<i>Locality and Character of Work</i>	<i>Contributions by Municipality or Others</i>	<i>Total Expenditure</i>
Weir River, Hull, dredging . . . . .	\$45,000 00	\$198,195 48
Wessagussett Channel, dredging . . . . .	—	815 20
Weymouth Fore River, dredging . . . . .	8,250 00	69,469 09
Winthrop Harbor Channels, dredging . . . . .	1,700 00	39,783 58
	<hr/>	<hr/>
	\$217,150 00	\$1,232,407 09

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK  
FROM DEC. 1, 1929, TO NOV. 30, 1930

<i>Location and Character of Work</i>	<i>Contributions</i>	<i>Expenditures</i>
Allen's Harbor, Harwich, timber fence, riprap and jetties . . . . .	\$1,600 00	\$267 55
Annisquam River, Gloucester, dredging and removal of boulders . . . . .	—	523 49
Bass River, Dennis and Yarmouth, dredging and jetties . . . . .	18,595 00	59,564 85
Brant Rock, Marshfield, riprap . . . . .	—	1,671 58
Cape Poge, Edgartown, survey . . . . .	—	160 54
Centerville River, Barnstable, dredging . . . . .	14,211 50	679 37
Cohasset Harbor, Cohasset, survey . . . . .	—	418 05
Conservation of waters . . . . .	—	3,865 48
Cotuit Harbor, Cotuit, dredging . . . . .	—	1,939 86
Duxbury Harbor, Duxbury, dredging . . . . .	25,000 00	49,837 76
Falmouth Heights, Falmouth, riprap and jetty . . . . .	5,987 50	12,704 58
Falmouth Inner Harbor, Falmouth, dredging . . . . .	2,500 00	6,662 00
Gloucester Harbor, Gloucester, dredging . . . . .	7,500 00	29,792 06
Great Ponds, survey . . . . .	—	2,780 87
Green Harbor, Marshfield, timber fence . . . . .	2,500 00	2,404 91
Herring River, Harwich, dredging . . . . .	29,600 00	27,820 00
Hull, concrete jetties . . . . .	—	578 87
Improvement of rivers and harbors, general ex- penses . . . . .	—	3,162 05
Lake Tashmoo, Tisbury, survey . . . . .	—	402 24
Manchester Harbor, Manchester, dredging . . . . .	6,500 00	12,518 91
Monument Beach, Bourne, survey . . . . .	—	326 40
New Bedford State Pier, operation . . . . .	—	2,474 46
Oak Bluffs, bulkhead and jetties . . . . .	—	8,332 24
Plymouth Harbor, dredging . . . . .	21,000 00	35,868 73
Plymouth Memorial Park, maintenance . . . . .	—	4,609 23
Province Lands, Provincetown, reclamation . . . . .	—	19,705 64
Provincetown Harbor, survey . . . . .	—	170 94
Rock Harbor, Orleans, excavating . . . . .	—	596 55
Rockport Harbor, Rockport, survey . . . . .	—	164 70
Scituate, shore protection: —		
Glades, North Scituate, riprap . . . . .	—	1,203 42
North Scituate, Surfside, sea wall repairs . . . . .	—	176 50
Scituate Harbor, dredging and surveys . . . . .	20,000 00	40,217 16
Sippican Harbor, Marion, survey . . . . .	—	608 49
Water Conservation. — See Conservation of Waters		
West Bay, Barnstable and Osterville, dredging . . . . .	1,128 07	4,585 73
West Harwich, Harwich, shore protection . . . . .	—	6,934 89
Wild Harbor, Falmouth, dredging . . . . .	10,000 00	13,971 81
Winthrop Shore, Winthrop, survey . . . . .	—	203 81
Witchmere Harbor, Harwich, dredging . . . . .	—	253 44
Wrecks and obstructions, removal of . . . . .	—	1,447 26
	<hr/>	<hr/>
	\$166,122 07	\$359,606 42

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1930, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Locality and Character of Work</i>	<i>Contributions by</i>	
	<i>Municipality or Others</i>	<i>Total Expenditure</i>
Acushnet River, inspection and dredging . . . . .	—	\$119,792 10
Allens Harbor, Harwich, shore protection, jetties and riprap . . . . .	\$9,827 50	26,733 27
Allens Pond, Dartmouth, survey . . . . .	—	195 95
Angle Tree Monument, reservation . . . . .	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap . . . . .	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, survey, dredging and stone breakwater . . . . .	—	55,786 05
Barnstable Harbor, Barnstable, dredging . . . . .	1,500 00	18,554 64
Bass River, Beverly, dredging . . . . .	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, jetties, dredging and survey . . . . .	22,595 00	176,526 08
Beach Street, Scituate. — See Scituate		
Beverly Harbor, Beverly, dredging . . . . .	—	50,000 00 <sup>1</sup>
Brant Rock, Marshfield, sea wall . . . . .	6,556 60	26,427 66
Brewster, Skaket, Inlet, survey . . . . .	—	617 19
Bucks Creek, Chatham, jetties, survey and dredging	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey . . . . .	—	166 11
Cape Poge, Edgartown, cut through beach, jetties and riprap . . . . .	16,500 00	42,557 04
Cataumet Harbor. — See Megansett Harbor		
Cedar Point, Scituate. — See Scituate		
Centerville River, Barnstable, dredging . . . . .	15,711 50	8,282 59
Cohasset Harbor, Cohasset, breakwater and dredging . . . . .	33,691 88	97,064 44
Concord River, Billerica, removing boulders . . . . .	150 00	1,664 59
Connecticut River, investigation of navigation and surveys . . . . .	—	8,878 96
Connecticut River, Agawam, protective work . . . . .	—	18,814 42
Connecticut River, Chicopee, survey, wall and riprap	640 00	25,789 02
Connecticut River, Hadley, protective work, diversion wall and survey . . . . .	5,000 00	118,740 95 <sup>2</sup>
Connecticut River, Hatfield, dikes and riprap . . . . .	1,000 00	51,238 61
Connecticut River, Holyoke, dredging and protective work . . . . .	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers . . . . .	—	1,195 32
Connecticut River, Northampton, protective work	—	1,524 20
Connecticut River, Northfield, riprap . . . . .	—	9,028 90
Connecticut River, South Hadley, wall . . . . .	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, protective work . . . . .	—	12,510 08 <sup>3</sup>
Conservation of Waters, investigations . . . . .	—	71,630 02
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs . . . . .	13,183 38	83,243 85
Cuttyhunk Harbor, Gosnold, jetties and dredging	9,000 00	70,754 18
Deacons Pond Harbor. — See Falmouth Inner Harbor		
Duxbury Bay and Harbor, dredging . . . . .	27,000 00	92,653 35

<sup>1</sup> \$50,000.00 expended by United States Government.

<sup>2</sup> From 1888 inclusive.

<sup>3</sup> From 1891 inclusive.



<i>Locality and Character of Work</i>	<i>Contributions by Municipality or Others</i>	<i>Total Expenditure</i>
East Bay, Osterville, jetties, dredging and removing scows	\$10,000 00	\$70,924 23
Edgartown Harbor, Edgartown, survey and cut in beach	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty re- pairs	—	19,660 43
Essex County beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33 <sup>1</sup>
Fall River Harbor, improvement	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap	22,210 04	70,667 71
Falmouth Inner Harbor, dredging, jetties, wall and riprap	31,500 00	150,396 26
First and Second Cliffs, Scituate. — See Scituate		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Glades, North Scituate. — See Scituate		
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and remov- ing ledges	15,000 00	148,786 71
Great Head, Winthrop. — See Winthrop Shore		
Great Ponds, survey	—	16,653 00
Green Harbor, Marshfield, jetties, dredging and survey	2,500 00	79,036 95
Gun Rock Point, Hull, breakwater	16,135 41	77,939 33
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and fence	32,100 00	86,001 14
Herring River, Wellfleet, dikes and ditches	10,000 00	34,509 38
Hoosac River, North Adams, excavation and survey	—	21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, sea wall and jetties	8,882 06	38,485 08
Humarock Beach, Scituate. — See Scituate		
Hyannisport, Barnstable, survey and breakwater	2,500 00	65,017 76
Improvement of Rivers and Harbors, general ex- penses	—	36,097 73
Ipswich River, Ipswich, jetty, wall, riprap and dredging	3,800 00	59,079 55
Kings Beach, Swampscott, removal of obstruction	—	166 41
Lake Anthony, Oak Bluffs, jetties and dredging	5,000 00	75,531 24
Lake Quannapowitt, Wakefield, investigation	—	345 32
Lake Tashmoo, Tisbury, survey	—	402 24
Lewis Bay, Barnstable, survey and dredging	18,809 29	66,631 28
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Lynn Harbor, Lynn, anchorage basin, survey and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	163,431 53
Manchester Harbor, Manchester, survey, jetties and dredging	76,500 00	176,295 48
Mattapoissett Harbor, survey	—	255 48
Megansett Harbor, Bourne and Falmouth, dredging	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, jetties, dredging, sea wall and riprap	2,700 00	116,992 11
Merrimack River, investigation and survey	—	1,208 50

<sup>1</sup> \$5,000.00 expended by United States Government.

<i>Locality and Character of Work</i>	<i>Contributions by</i>	
	<i>Municipality</i>	<i>Total</i>
	<i>or Others</i>	<i>Expenditure</i>
Mill River, Gloucester, survey and dredging . . . . .	\$300 00	\$24,899 59
Mitchell's River, Chatham, survey and dredging . . . . .	6,000 00	23,113 92
Monument Beach, Bourne, survey . . . . .	—	326 40
Nahant, survey . . . . .	—	82 15
Namequoit River and Pleasant Bay, dredging . . . . .	5,500 00	28,529 62
Nantucket, survey of Sesachacha Pond . . . . .	—	110 66
Nantucket Harbor, dredging . . . . .	5,000 00	58,982 52
Nauset Harbor and Town Cove, Orleans, dredging . . . . .	2,000 00	10,671 24
New Bedford Harbor, dredging . . . . .	—	18,856 57
New Bedford State Pier, pier shed and dredging . . . . .	13,446 74 <sup>1</sup>	494,133 33
New Bedford State Pier, operation and maintenance . . . . .	—	53,188 55
Newburyport Harbor, survey . . . . .	—	115 97
Nobscusset Harbor, Dennis, breakwater, dredging and riprap . . . . .	1,950 00	41,385 22
North River, Marshfield, surveys and removing rocks . . . . .	1,800 00	8,658 75
North River, Salem, survey . . . . .	—	704 52
North Scituate. — See Scituate		
Oak Bluffs, removing rocks . . . . .	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties . . . . .	52,500 00	141,077 77
Ocean Grove, Swansea, survey . . . . .	—	143 23
Onset Bay, Wareham, survey and dredging . . . . .	1,000 00	15,295 89
Orleans, survey . . . . .	—	104 18
Palmer's Pond, Falmouth, survey . . . . .	—	358 76
Pamet River, Truro, survey, dredging and repairing jetties . . . . .	1,200 00	198,010 32
Paskamansett River, Dartmouth, dredging and jetty . . . . .	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey . . . . .	—	5,192 95
Pines River, Revere and Saugus, survey . . . . .	—	904 80
Pleasant Bay, Chatham . . . . .	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey . . . . .	—	983 31
Plymouth Harbor, dredging and removing old piling . . . . .	92,794 55 <sup>2</sup>	318,555 35
Plymouth Memorial Park, maintenance . . . . .	—	35,687 08
Point Shirley, Winthrop. — See Winthrop Shore		
Poponneset Bay, Barnstable and Mashpee, dredging . . . . .	—	46,252 33
Powow River, Amesbury, dredging channel and rapping wall . . . . .	—	502 94
Province Lands, Provincetown . . . . .	—	145,777 92
Provincetown Harbor, shore protection . . . . .	75 00	28,730 81
Quamquisset Harbor, Falmouth, survey . . . . .	—	710 31
Quansett Harbor, Orleans, survey and dredging . . . . .	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier . . . . .	—	275 00
Revere, stone breakwater . . . . .	—	60,397 93
Rock Harbor, Orleans, dredging . . . . .	2,400 00	20,667 51
Rockport Harbor, Rockport, dredging and removing rocks . . . . .	500 00	15,720 28
Salem Harbor, Salem, survey . . . . .	—	1,509 92
Salt Pond River, Eastham, survey . . . . .	—	210 11
Salter's Point, Dartmouth, breakwater . . . . .	4,500 00	42,939 57
Sand Hills, Scituate. — See Scituate		
Sandwich Harbor, Sandwich, dredging channel, riprap and jetties . . . . .	—	80,579 84
Saugus River, Lynn and Saugus . . . . .	2,000 00	20,845 17

<sup>1</sup> Paid by Surety Company.<sup>2</sup> \$57,000.00 expended under direction of United States Government.



<i>Locality and Character of Work</i>	<i>Contributions by Municipality or Others</i>	<i>Total Expenditure</i>
Scituate, shore protection: —		
Beach Point, Scituate, wall and breakwater . .	\$17,333 52	\$34,782 50
Cedar Point, Scituate, wall and breakwater . .	21,446 64	37,445 32
First and Second Cliffs, Scituate, wall and riprap	2,297 92	13,053 52
Glades, North Scituate, filling and riprap . . .	13,250 78	30,737 96
Humarock Beach, Scituate, survey, wall and jetties	37,816 38	57,279 06
North Scituate, Surfside, spur jetties . . . .	1,757 60	17,042 69
Sand Hills, Scituate, wall and jetties . . . .	4,511 26	12,624 06
Third Cliff, Scituate, riprap and survey . . .	75,193 10	121,353 34
Scituate Harbor, dredging and surveys . . . .	53,300 00	205,865 94
Scorton Harbor, Sandwich, jetty and dredging . .	500 00	17,774 34
Seapuit River, Barnstable, dredging . . . . .	13,000 00	25,088 55
Sesuit Harbor, Dennis, jetty . . . . .	1,500 00	24,555 10
Shirley Gut, survey . . . . .	—	97 05
Sippican Harbor, Marion, survey . . . . .	—	615 66
Smith's Cove, Gloucester, survey and dredging . .	3,875 00	13,466 16
South River, Salem, dredging . . . . .	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation . . . . .	—	203 42
Stage Harbor, Chatham, dikes and survey . . . .	—	10,803 01
Taunton-Brockton waterway, investigation . . . .	—	5,278 18
Taunton River, survey and dredging . . . . .	12,500 00	28,697 18
Taunton River-Boston Harbor Canal, survey . . .	—	9,932 75
Taunton River-Massachusetts Bay Canal, survey . .	—	11,786 71
Third Cliff, Scituate. — See Scituate.		
Vineyard Haven Harbor, repairing sea wall . . .	2,380 50	11,945 01
Vineyard Haven Harbor, Tisbury, breakwater and dredging . . . . .	1,000 00	45,518 25
Waquoit Bay, Falmouth, breakwater, wall and bulkhead . . . . .	2,000 00	57,424 50
Wareham River, Wareham, survey and dredging . .	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and survey . .	9,713 98	25,099 86
Watch Hill, Chatham, survey and riprap . . . .	—	14,968 75
Water Conservation. — See Conservation of Waters.		
Wellfleet Harbor, Wellfleet, survey and dredging .	1,500 00	17,600 29
West Bay Barnstable and Osterville . . . . .	16,128 07	114,517 57
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater . . . . .	11,473 75	63,350 92
West Harwich, shore protection . . . . .	3,500 00	20,428 30
Westfield River, Westfield, survey and jetties . .	—	6,037 29
Westport Harbor, Westport, jetty extension . . .	—	19,025 07
Wild Harbor, Falmouth, jetty and dredging . . .	15,000 00	50,351 36
Winthrop Shore, sea walls and protective work . .	40,500 00	97,547 52
Witchmere Harbor, Harwich, jetties and dredging .	3,000 00	55,795 13
Woods Hole, Great Harbor, Falmouth, dredging .	1,500 00	6,968 86
Wrecks, removal from tide water . . . . .	—	20,283 69
Yarmouthport Harbor, survey . . . . .	7,000 00	95,977 37
	<hr/> \$1,174,210 49	<hr/> \$6,924,058 20

## FEDERAL APPROPRIATION AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1930, are shown in the following tables furnished by the Chief of Engineers, U. S. Army: —

TABLE NO. 1. — *Localities at Present under Improvement*

(Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1930)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor . . . . .	\$500,900 00	\$500,900 00
Gloucester Harbor . . . . .	538,183 00	538,183 00
Beverly Harbor . . . . .	246,690 41	246,690 41 <sup>1</sup>
Salem Harbor . . . . .	71,368 66	71,368 66
Lynn Harbor . . . . .	471,937 00	471,937 00
Mystic River . . . . .	306,684 84	306,684 84
Boston Harbor . . . . .	13,443,058 14	13,494,862 58
Dorchester Bay and Neponset River . . . . .	120,487 34	131,908 00
Weymouth Fore River . . . . .	641,150 00	641,150 00 <sup>2</sup>
Weymouth Back River . . . . .	27,000 00	27,000 00
Scituate Harbor . . . . .	126,590 98	126,590 98
Plymouth Harbor . . . . .	421,184 80	421,184 80 <sup>3</sup>
Cape Cod Canal . . . . .	11,843,479 71	12,034,555 45
Operating and Care of Cape Cod Canal . . . . .	534,110 95	544,000 00
Provincetown Harbor . . . . .	348,062 72	348,062 72
Pollock Rip Shoals, Nantucket Sound . . . . .	1,294,738 15	1,332,845 68
Harbor of Refuge at Nantucket . . . . .	694,582 83	694,582 83
New Bedford and Fairhaven Harbor . . . . .	935,852 58	935,852 58
Fall River Harbor . . . . .	411,614 07	411,614 07
Taunton River . . . . .	204,329 19	204,329 19
	<hr/>	<hr/>
	\$33,182,005 37	\$33,484,302 79

TABLE NO. 2. — *Localities in Which Work is Not Now in Progress*

(Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River . . . . .	\$404,466 72	\$404,466 72
Malden River . . . . .	149,950 00	149,950 00
Sandy Bay, Cape Ann, Harbor of Refuge . . . . .	1,941,478 00	1,941,478 00
Bass River . . . . .	20,150 34	20,150 41
Buzzards Bay Harbor . . . . .	2,500 00	2,500 00
Canapitset Channel . . . . .	5,312 54	9,800 00
Chatham Harbor . . . . .	12,171 36	13,732 79
Cohasset Harbor . . . . .	10,000 00	10,000 00
Duxbury Harbor . . . . .	37,000 00	37,000 00
East Dennis breakwater . . . . .	7 57	1,500 00
Edgartown Harbor . . . . .	25,000 00	25,000 00
Essex River . . . . .	30,000 00	30,000 00
Hingham Harbor . . . . .	38,316 58	39,000 00
Hyannis Harbor . . . . .	221,267 07	221,267 07
Ipswich River . . . . .	5,617 91	7,500 00
Kingston Harbor . . . . .	8,940 09	10,000 00
Little Harbor, Woods Hole . . . . .	18,000 00	18,000 00
Manchester Harbor . . . . .	23,985 57	24,300 00
Marblehead Harbor . . . . .	833 42	1,900 00
Martha's Vineyard Harbor . . . . .	7,000 00	7,000 00
Powow River . . . . .	50,940 72	51,000 00
Rockport Harbor . . . . .	91,229 25	91,232 57
Town River . . . . .	37,577 41	37,577 41
Vineyard Haven Harbor . . . . .	55,387 35	60,000 00
Wareham Harbor . . . . .	95,997 30	96,236 00

<sup>1</sup> In addition \$100,000 has been contributed by local interests.

<sup>2</sup> In addition \$100,000 has been contributed by local interests.

<sup>3</sup> In addition \$108,400 has been contributed by local interests.



<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Wellfleet Harbor . . . . .	11,365 57	16,000 00
Westport Harbor and River . . . . .	3,000 00	3,000 00
Winthrop Harbor . . . . .	9,000 00	9,000 00
Woods Hole Channel . . . . .	343,599 92	344,000 00
<b>Total . . . . .</b>	<b>\$3,660,094 69</b>	<b>\$3,682,590 97</b>

*Recapitulation*

Total of Table No. 1 . . . . .	\$33,182,005 37	\$33,484,302 79
Total of Table No. 2 . . . . .	3,660,094 69	3,682,590 97
<b>Grand total . . . . .</b>	<b>\$36,842,100 06</b>	<b>\$37,166,893 76</b>

EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1930

(The tributaries given are those now under improvement and do not include tributaries heretofore improved)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Boston Harbor proper <sup>1</sup> . . . . .	\$13,443,058 14	\$13,494,862 58
Mystic River . . . . .	306,684 84	306,684 84
	<b>\$13,749,742 98</b>	<b>\$13,801,547 42</b>

<sup>1</sup> Including Chelsea Creek.





## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
201	Savin Hill Bay and Dorchester Bay, dredging.	Trimount Dredging Company .	July 16, 1929
204	D Street Storehouse, repairs to plat- forms.	Geo. W. Nicoll Co. Inc. .	Sept. 3, 1929
205	Town River, Quincy, dredging . .	Bay State Dredging and Con- tracting Company.	Sept. 17, 1929
207	Wild Harbor, Falmouth, dredging .	Trimount Dredging Company .	May 6, 1930
208	Commonwealth Pier 5, wooden bridges over railroad tracks.	Maurice M. Devine . . .	Oct. 22, 1929
211	West Harwich, shore protection .	Edward E. Crowell and Isaiah Kelley.	Oct. 29, 1929
213	Bass River, Yarmouth, extension of easterly jetty.	Bay State Dredging and Con- tracting Company.	Nov. 19, 1929
214	Commonwealth Pier 5, repairs to timber platforms.	W. H. Ellis & Son Co. . .	Nov. 27, 1929
215	Hull, Sea wall Gun Rock—Green Hill, spur jetties.	Bradford Weston . . .	Nov. 19, 1929
216	Boston Airport, miscellaneous repairs to hangars of M. N. G.	Hill and Delaney . . .	Nov. 26, 1929
217	Commonwealth Pier 5, repairs to floor surfacing.	Reynolds Bros., Inc. . .	Nov. 27, 1929
218	Ramp and portion of D St., repaving	A. DeStefano & Sons, Inc. .	Nov. 27, 1929
219	D St. Storehouse, cement plaster sur- facing on walls.	Maurice M. Devine . . .	Nov. 27, 1929
220	Commonwealth Pier 5, indicator posts and gate valves on water pipes.	M. De Sisto Company . .	Nov. 27, 1929
221	Commonwealth Pier 5, steel office par- titions in Room 350.	E. F. Hauserman Company, Inc.	Dec. 24, 1929
222	Commonwealth Pier 5, dredging east and west docks.	Bay State Dredging and Con- tracting Company.	Jan. 7, 1930
223	Commonwealth Pier 5, refreshment booth.	Carl S. Helrich . . .	Jan. 7, 1930
224	Duxbury Harbor, dredging . . .	Bay State Dredging and Con- tracting Company.	Mar. 18, 1930

## AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1930

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30, 1930	Total paid to Nov. 30, 1930	Estimated amount of contract
Completed July 10, 1930	For dredging channels, 40 cents per cubic yard measured in situ.	\$75,384 90	\$116,967 20	\$113,418 00
	For dredging flats, 49 cents per cubic yard measured in situ.			
	For removing and disposing of boulders, \$18 per cubic yard.			
Completed Nov. 26, 1929	Unit prices . . . . .	1,694 42	2,488 89	2,277 00
Completed Mar. 7, 1930	For dredging channel and disposing of dredged material, 49 cents per cubic yard, scow measurement.	39,449 26	54,325 81	40,200 00
	For removing and disposing of boulders, \$20 per cubic yard.			
In progress	For dredging and disposing of dredged material on shore, 57 cents per cubic yard, measured in situ.	13,034 50	13,034 50	19,500 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Dec. 28, 1929	For making and installing wooden bridges over railroad tracks in track pit, \$249 each.	1,465 96	2,481 88	1,992 00
Completed Feb. 24, 1930	For furnishing materials and building wire fence, \$1.55 for each linear foot.	5,728 10	5,728 10	5,087 10
	For furnishing materials and building wire spur jetties, \$1.55 for each linear foot.			
Completed May 3, 1930	For furnishing and placing stone riprap and chips in jetty, \$6.15 for each ton of 2000 pounds.	24,318 45	24,318 45	22,140 00
Completed Feb. 8, 1930	For furnishing, driving, fitting and securing fender piles on sides and end of pier, \$72 each.	1,711 44	1,711 44	758 00
	For furnishing, driving, fitting and securing new foundation piles, \$74 each.			
	For furnishing and placing screw bolts, drift bolts, iron bands and fitting, 15c per pound.			
	For furnishing, fitting and securing yellow pine lumber in fender cap and platforms, \$222 for 1500 feet B. M.			
Completed Dec. 17, 1929	\$15 for each cubic yard of concrete in place in completed work.	520 80	520 80	525 00
Completed Jan. 8, 1930	For installation of toilet room, complete, \$2,300.	3,050 00	3,050 00	3,465 00
	For furnishing and laying 2-inch water and 4-inch sewer pipes, including excavation, back fill and all incidental work, \$675.			
	For removal of boiler, \$150.			
	For each 1000 ft. B. M. of lumber furnished and erected in storage platform, \$85.			
Completed Dec. 28, 1929	Unit prices . . . . .	6,561 25	6,561 25	4,340 00
Completed Apr. 11, 1930	Unit prices . . . . .	15,738 18	15,738 18	12,787 25
Completed May 21, 1930	For furnishing and placing cement plaster surfacing ½ inch thick on tile wall, \$2.25 per square yard measured in place in the completed work.	1,046 89	1,046 89	945 00
Completed Mar. 27, 1930	For furnishing and installing complete, gate valves, indicator posts, offset line and wheel guards, including all incidental work, the lump sum of \$1,050.	1,379 96	1,379 96	1,050 00
Completed Jan. 24, 1930	For furnishing and erecting steel partitions, the lump sum of \$1,816.	1,816 00	1,816 00	1,816 00
	If Hauserman 102 Green finish, baked on enamel is used, \$166 may be deducted.			
Completed July 1, 1930	For dredging and disposing of dredged material, 84½ cents per cubic yard, scow measurement.	21,346 39	21,346 39	20,000 00
Completed Feb. 1, 1930	For the construction of the Refreshment Booth complete, including plumbing, heating and electrical connections, the lump sum of \$833.	887 74	887 74	833 00
Completed May 23, 1930	For dredging and disposing of dredged material, 52 cents per cubic yard, scow measurement.	48,084 64	48,084 64	49,420 00
	For removing and disposing of boulders, \$20 per cubic yard.			



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
225	Bird Island Anchorage Basin, repairs to dolphins.	A. A. Hersey & Son Company .	Mar. 18, 1930
226	Falmouth Heights, stone jetty and rip-rap.	Arthur K. Finney . .	Apr. 15, 1930
227	Commonwealth Pier 5, new doors, frames and glazing.	Hill & Delaney . . .	Apr. 29, 1930
228	Weir River, Hull, dredging . .	Bay State Dredging and Contracting Company.	Apr. 1, 1930
229	Manchester Harbor, dredging . .	Bay State Dredging and Contracting Company.	Apr. 15, 1930
230	E Street Storehouse, rebuilding timber platform.	Michael Solimando . . .	May 6, 1930
231	Scituate Harbor, dredging . . .	Bay State Dredging and Contracting Company.	Apr. 29, 1930
232	Gloucester Harbor, dredging . .	Bay State Dredging and Contracting Company.	May 6, 1930
233	Plymouth Harbor, dredging . .	Bay State Dredging and Contracting Company.	May 20, 1930
234	Falmouth Inner, Harbor, dredging .	William E. Burke . . .	May 13, 1930
235	Commonwealth Pier 5, repairs to plaster walls, installation of steel plates and glazing.	Maurice M. Devine . . .	June 10, 1930
236	Bass River, Dennis and Yarmouth .	Bay State Dredging and Contracting Company.	July 15, 1930
237	Race Run Diike, Province Lands .	Frank H. Barry . . .	July 15, 1930
238	Boston Harbor, dredging off India, Central and Long Wharves.	Bay State Dredging and Contracting Company.	July 15, 1930
239	Centerville River, Barnstable, dredging	Trimount Dredging Company .	July 22, 1930

## AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1930

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30, 1930	Total paid to Nov. 30, 1930	Estimated amount of contract
Completed May 14, 1930	For removing old piles, furnishing, driving and fitting new piles, \$74 for each pile removed and replaced. For furnishing and binding each dolphin with wire rope, \$33.50 for binding each dolphin.	\$733 00	\$733 00	\$437 00
Completed July 15, 1930	For furnishing and placing heavy stone and granite chips in the jetty, \$4.79 for each ton of 2000 pounds. For furnishing and placing heavy stone riprap in front of the existing concrete sea wall, \$4.79 for each ton of 2,000 pounds.	11,965 76	11,965 76	11,975 00
Completed June 2, 1930	For furnishing all materials and labor doing all work necessary to install complete new doors, \$125 for each set of new doors. For removing broken glass, furnishing and setting new wire glass, 75 cents for each light of glass.	1,179 00	1,179 00	1,400 00
Completed Oct. 15, 1930	For dredging and disposing of dredged material, 45 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	64,141 81	64,141 81	72,020 00
Completed June 14, 1930	For dredging and disposing of dredged material, 43 cents per cubic yard, scow measurement. For removing and disposing of all boulders, \$20 per cubic yard.	11,930 89	11,930 89	11,200 00
Completed July 15, 1930	Unit prices . . . . .	8,166 08	8,166 08	7,681 00
Completed Aug. 7, 1930	For dredging area "A" and disposing of dredged material, 53 cents per cubic yard, scow measurement. For removing and disposing of all boulders, \$20 per cubic yard. For dredging area "C" and disposing of the dredged material, 75 cents per cubic yard, scow measurement.	39,117 99	39,117 99	39,320 00
Completed Oct. 7, 1930	For dredging and disposing of dredged material, 39.8 cents per cubic yard, scow measurement. For removing and disposing of all boulders, \$20 per cubic yard.	29,228 72	29,228 72	27,880 00
Completed Nov. 20, 1930	For dredging and disposing of dredged material, 51 cents per cubic yard, scow measurement. For removing and disposing of all boulders, \$20 per cubic yard.	33,838 89	33,838 89	38,780 00
Completed May 25, 1930	For dredging channel and basin and disposing of dredged material, 45 cents per cubic yard, scow measurement. For removing and disposing of all boulders, \$20 per cubic yard.	5,230 90	4,230 90	4,520 00
Completed July 30, 1930	Unit prices . . . . .	5,005 26	5,005 26	3,885 00
Completed Oct. 16, 1930	For dredging channel and shoals and disposing of dredged material, 58 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard. For dredging anchorage basins and disposing of dredged material, 55 cents per cubic yard, scow measurement.	33,361 89	33,361 89	40,940 00
In progress In progress	Lump sum of \$18,950 . . . . . For dredging and disposing of dredged material, 36 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	12,886 00 17,082 45	12,886 00 17,082 45	18,950 00 14,420 00
In progress	For dredging and disposing of dredged material on marsh, upland and beach. 35 cents per cubic yard, measured in place. For removing and disposing of boulders, \$10 per cubic yard.	-	-	21,710 00



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
240	Staples Coal Wharf, dredging westerly dock.	J. S. Packard Dredging Company.	July 15, 1930
241	East Boston, dredging off Cunard Docks (Grand Junction Wharves).	Bay State Dredging and Contracting Company.	July 15, 1930
242	Staples Coal Wharf, fender logs . . .	Bay State Dredging and Contracting Company.	July 15, 1930
243	Herring River, Harwich, dredging .	Trimount Dredging Company .	Aug. 26, 1930
244	East Boston, dredging adjacent to Simpson Works.	Bay State Dredging and Contracting Company.	Sept. 2, 1930
245	Commonwealth Pier 5, additions to engineering offices.	Carl S. Helrich . . .	Aug. 26, 1930
246	Commonwealth Pier 5, additional offices and alterations for Registry of Motor Vehicles.	M. Slotnick Company . . .	Sept. 2, 1930
248	Green Harbor, Marshfield, timber fence	Owen W. Duffy Co. . . .	Oct. 14, 1930
249	South Boston, painting exterior of building on Grasselli Wharf and of garage under viaduct.	Maurice M. Devine . . . .	Oct. 28, 1930
250	Allens Harbor, Harwich, timber fence and rip-rap.	Joseph W. Nickerson . . .	Nov. 12, 1930
251	Neponset River, dredging . . . .	Bay State Dredging and Contracting Company.	Nov. 5, 1930
252	Witchmere Harbor, Harwich, dredging	William E. Burke . . . .	Nov. 5, 1930
253	Northern Avenue, sea wall . . . .	William R. Farrell . . . .	Nov. 18, 1930
254	Hough's Neck, Quincy, dredging . .	Bay State Dredging and Contracting Company.	Nov. 25, 1930

## AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1930

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30, 1930	Total paid to Nov. 30, 1930	Estimated amount of contract
Completed Aug. 29, 1930	For dredging and disposing of dredged material, 50 cents per cubic yard, scow measurement.	\$3,040 50	\$3,040 50	\$2,265 00
In progress	For removing and disposing of boulders, \$15 per cubic yard.	25,085 92	25 085 92	17,820 00
Completed Sept. 11, 1930	For dredging and disposing of dredged material, 44.5 cents per cubic yard, scow measurement.			
	For removing and disposing of boulders, \$20 per cubic yard.	1,426 75	1,426 75	1,579 00
	For furnishing, preparing and placing floating fender logs, \$3.53 per linear foot of fender log in place.			
	For furnishing and attaching each chain complete, \$52 for each chain placed in the work.			
In progress	For dredging channel and disposing of dredged material upon adjacent flats, 58 cents per cubic yard, including building dikes and removing section of lower County Bridge.	25,587 19	25,587 19	51,610 00
	For removing and disposing of boulders, \$20 per cubic yard.			
In progress	For dredging and disposing of dredged material, 55 cents per cubic yard, scow measurement.	26,363 26	26,363 26	25,320 00
	For removing and disposing of boulders, \$20 per cubic yard.			
In progress	For furnishing labor and materials and building addition to engineering offices, \$17,890.	14,696 67	14,696 67	18,067 50
	For removing broken glass and furnishing and setting new wire glass, \$1.25 for each light of glass placed.			
	For reputtying Fenestra sash, 35 cents for each light of glass puttied.			
Completed Nov. 21, 1930	For furnishing labor and materials and building additional offices and making alterations to offices at Registry, \$13,700.	12,825 05	12,825 05	14,295 00
	For removing broken glass and furnishing and setting new wire glass, \$2.50 for each light of glass so placed.			
	For reputtying Fenestra sash, \$2.30 for each light of glass so puttied.			
In progress	For each linear foot of fence measured in place, including furnishing of all labor and materials and performing of all excavation, backfilling and incidental work, \$5.50.	2,103 75	2,103 75	3,700 00
In progress	For furnishing labor and equipment for painting by spraying under compressed air the exterior of two buildings, the lump sum of \$595.	303 45	303 45	595 00
In progress	For each linear foot of fence, measured in place, including furnishing of labor and materials, \$6.	—	—	2,785 50
	For each ton of riprap furnished and placed, including all grading and incidental work, \$4.65.			
In progress	For dredging and disposing of dredged material, 74 cents per cubic yard, scow measurement.	—	—	1,352 00
	For removing and disposing of boulders, \$20 per cubic yard.			
In progress	For dredging and disposing of dredged material, 60 cents per cubic yard, scow measurement.	—	—	4,940 00
	For removing and disposing of boulders, \$20 per cubic yard.			
In progress	For furnishing and placing riprap along toe of sea wall, including all incidental work, \$4.73 per ton of riprap in place.	—	—	2,838 00
In progress	For dredging and disposing of dredged material, 49 cents per cubic yard, scow measurement.	—	—	14,720 00
	For removing and disposing of boulders, \$20 per cubic yard.			



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
255	Coulter's Beach, Savin Hill Bay, placing sand or gravel.	Henry N. Worthington . . .	Nov. 25, 1930
256	Pilgrim Memorial Park, Plymouth, concrete walks, etc.	Domenik' Romano . . .	Nov. 25, 1930
257	Brant Rock, Marshfield, riprap .	Philip B. Oakman . . .	Nov. 25, 1930
259	Herring River, Harwich, dredging .	Trimount Dredging Company .	Nov. 25, 1930

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1930

Condition of Work	Contract Prices	Amount paid during year ending Nov.30, 1930	Total paid to Nov. 30, 1930	Estimated amount of contract
In progress	For furnishing and placing sand or sand and gravel, including all incidental work, \$1.20 per cubic yard of material placed in the work.	-	-	\$3,600 00
In progress	For straight granite curbing set in place, \$2.05 per linear foot. For curbed granite curbing set in place, \$2.25 per linear foot. For concrete walk in place, \$2.25 per square yard. For gravel walk in place, \$1.25 per square yard.	-	-	1,178 75
In progress	For placing riprap and chips, \$3.85 per ton.	\$1,636 25	\$1,636 25	2,500 00
In progress	For dredging and disposing of dredged material on marsh and flats, 40 cents per cubic yard. For removing and disposing of boulders, \$20 per cubic yard.	-	-	8,000 00



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The Commonwealth of Massachusetts

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ANNUAL REPORT

OF THE

Department of Public Works

For the Year Ending November 30, 1931







# The Commonwealth of Massachusetts

## TWELFTH ANNUAL REPORT

OF THE

## DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1931

*To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the twelfth annual report of the Department of Public Works for the year ending November 30, 1931. •

The organization of the Department, as defined in chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:—

Commissioner of Public Works, FRANK E. LYMAN.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, HERMAN A. MACDONALD.

The Department has conducted during this year a road building program which has broken all previous records, both in mileage of road surfaces completed and in the expenditure of money. This impetus to highway work was caused by the special legislation, Chapter 122, Acts of 1931, which increased the tax on gasoline and in addition provided a bond issue of \$7,000,000. This made possible a material relief to the unemployment situation, and resulted in the employment of more men on highway work during the past year than ever before.

The mileage of new State highways laid out during the year amounted to 102.148 miles, but there were abandoned or discontinued 1.175 miles, so that the net mileage of State highways amounted to 1,769.669 miles at the end of the year.

The Department has constructed, reconstructed and widened 166 miles of State highways, and built 209 miles of roads in co-operation with cities, towns and counties under provisions of Chapter 90, General Laws, and, in addition, has constructed 12 miles of highways under provisions of Special Acts. Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and maintenance of about 8.830 miles of public ways, exclusive of State highways, in 178 towns.

The Department has continued the policy of building wider types of pavements, many miles built this year being 30 and 40 feet in width. In many cases of highway intersections on important routes grade separations have been made by constructing a bridge to carry one road over the other to allow the continuous movement of traffic. New locations have been adopted for a number of highways in order to avoid dangerous conditions and to by-pass congested centers as well as for the purpose of decreasing distances.

The State highway projects have included the following:

Reconstruction and widening to 38 feet of about 5½ miles of highway have been completed on the Boston to Lawrence route in the towns of Andover, Reading and North Reading, and a by-pass constructed to avoid the center of the town of Andover.

A section of the Boston Post Road in Marlborough and Northborough has been reconstructed and widened to 30 feet. The elimination of the railroad grade crossing in Weston at Stony Brook has been completed and a by-pass constructed to avoid the center of the town and the present highway connecting the two has been widened to 40 feet.

The completion of 17 miles of the new Boston to Worcester Turnpike, i. e., that portion between the Worcester-Shrewsbury town line and Framingham Center, and the start of an additional section between Framingham Center and the Natick-Wellesley town line. The highway will provide a roadway having a present width of 40 feet, consisting of two twenty-foot strips separated by a grassed strip and considered one of the most advanced types of highway for through traffic.

The construction of a by-pass is under way to avoid the city of Worcester, to extend from a point on the Boston Post Road in Northborough to Southbridge Street in Auburn, affording an improved route from Boston to Springfield, Hart-



ford and New York. The pavement will be of reinforced cement concrete 30 feet in width and will be widened to 40 feet on several of the summits to provide greater safety. At important intersections structures are being built to permit a separation of grades and to afford a continuity of traffic movement.

Considerable progress has been made in the improvement of the Mohawk Trail Route (Boston to North Adams), in the towns of Erving, Gill and Greenfield. When completed this highway will eliminate the circuitous route which now passes through the congested centers of Millers Falls and Turners Falls, two railroad grade crossings and considerable amount of dangerous grades and alignments. This includes construction of about 6 miles of new State highway, a highway grade separation, a bridge over the Central Vermont Railroad and the construction of a large steel arch bridge over the Connecticut River about 780 feet long with a roadway more than 100 feet above the river level.

Between Springfield and Pittsfield, on the so-called Jacob's Ladder Route, a cutoff approximately 4 miles long has been constructed in the towns of Chester and Huntington, avoiding two dangerous railroad crossings and two crossings of the Westfield River; and further west in the towns of Becket and Lee about 13 miles of State highway have been widened and resurfaced. This work completes the improvements in the entire highway from Westfield to Lee.

New bridges have been constructed across railroads in Bernardston and Hinsdale, replacing old bridges in dangerous locations.

Construction has begun on a new bridge across the Deerfield River between Greenfield and Deerfield to replace the historic Cheapside covered bridge.

A new highway has been completed in Hingham and Hull which allows traffic from Hull to reach the main land without passing through Nantasket Beach Reservation and also affords easier access to Nantasket Beach.

That part of the new Boston to Providence highway from the Pawtucket town line to the town of Foxborough has been completed; additional sections of this route are now under construction as far north as the town of Norwood. When completed this will afford a concrete pavement 40 feet wide with specially designed structures at important cross roads for separation of grades, permitting a continuous flow of traffic.

The highway between Fall River and Providence has been widened so that it is now 40 feet for the entire length in Massachusetts.

On the Boston to Cape Cod route via Plymouth, reconstruction, widening and relocation of the highway has been completed in the towns of Duxbury, Kingston and Pembroke. Further south, in Bourne and Plymouth, similar work has been done. On the Cape a cutoff about  $5\frac{1}{2}$  miles in length has been built on new location in the town of Barnstable, avoiding the congested villages of Osterville and Centerville.

Another section of the circumferential highway in the towns of Canton, Dedham and Westwood, including bridges over two divisions of the New York, New Haven and Hartford Railroad, has been practically completed and an additional contract is now being executed further west in Dedham and in Westwood, Needham and Wellesley.

Under a Special Act the Department constructed a highway grade separation at the intersection of the Revere Beach Parkway and Broadway in the city of Revere. Also, under another Special Act work has been started on a parkway in Boston and Brookline from the West Roxbury Parkway to the Dedham line, and in a traffic artery in Boston from Blue Hill Avenue to Cummins Highway in the vicinity of Canterbury Street.

The Department, with the approval of the Governor of the Commonwealth, was authorized, on behalf of the Commonwealth, to acquire land in the city of Boston for a building for general office and headquarters purposes of the Department, and to construct a building for these purposes. Chapter 122 of the Acts of 1931 provided that the Department may expend for this purpose a sum not exceeding one million five hundred thousand dollars. Pursuant to this act, the Department appointed Edward T. P. Graham, of Boston, as Architect, on June 11, 1931, to prepare plans for and to supervise the construction of this building. Plans for the building were approved by the Governor on September 10, 1931. Contract plans and specifications were completed in November, 1931, and bids advertised to be received December 3, 1931.

The engineering and clerical staff of the Department was as follows:—

Chief Engineer, ARTHUR W. DEAN.

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND C. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor, — JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor, FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

#### *Registry of Motor Vehicles*

Registrar, GEORGE A. PARKER<sup>1</sup> and MORGAN T. RYAN.<sup>2</sup>

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,

December 1, 1931.

*Commissioner of Public Works.*

#### SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

The construction of a breakwater and certain marine improvements in that part of the town of Winthrop known as Winthrop Highlands. Report made Dec. 1, 1930, by the Department of Public Works, under chapter 23, Resolves of 1930. (Senate 5 of 1931).

The disposal of certain used motor vehicles and the licensing of motor vehicle junk yards. Report made Dec. 1, 1930, by the Department of Public Works, under chapter 24, Resolves of 1930. (Senate 6 of 1931.)

The improvement of highway conditions in certain cities and towns within the Metropolitan District. Report made Dec. 3, 1930, by the Department of Public Works, under chapter 48, Resolves of 1930. (Senate 330 of 1931.)

The adequacy of the terminal facilities of the Port of Boston and the advisability of the construction of a grain elevator on harbor-front property of the Commonwealth at South Boston. Report made Dec. 3, 1930, jointly by the Department of Public Works and the Boston Port Authority, under chapter 37, Resolves of 1930. (House 171 of 1931.)

<sup>1</sup> Resigned July 1, 1931.

<sup>2</sup> Appointed July 1, 1931.



The discharge of sewage into Boston Harbor and its tributary waters. Report made Dec. 3, 1930, by a special unpaid commission consisting of the Commissioner of Public Works, or an associate commissioner designated by him, the Commissioner of Public Health, or a representative of his department designated by him, the Health Commissioner of the city of Boston, and the Commissioner of Public Works of the city of Boston, under chapter 29, Resolves of 1929. (Senate 56 of 1931.)

The advisability of constructing a state fish pier in the city of Gloucester. Report made Dec. 22, 1930, by a special unpaid commission consisting of one member of the Senate, three members of the House of Representatives and the Commissioner and Associate Commissioners of the Department of Public Works, under chapter 32, Resolves of 1930. (House 352 of 1931.)

The advisability of filling in part of Fort Point Channel and South Bay in Boston Harbor. Report made by a special unpaid commission consisting of one member of the Senate, two members of the House of Representatives, the Commissioner of Public Works, the Commissioner of Public Health, the Chairman of the Division of Metropolitan Planning, the Chairman of the Boston City Planning Board and the Commissioner of Public Works of the city of Boston, under chapter 29, Resolves of 1930. (House 1290 of 1931.)

### RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 2, 1931, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

#### 1. *Continuing in Force the Registration of Motor Vehicles or Trailers in cases of Insolvency or Bankruptcy of Owners thereof*

In order to "perfect" the law and validate a departmental practice in which it has been the custom in the past to allow registrations to run for the remainder of the year in cases where the owner has been petitioned into bankruptcy or insolvency, the Department recommends legislation.

#### 2. *Notices of Cancellation for Non-Payment of Insurance Premiums and the Revocation of Registrations in such cases*

In order to regulate and reduce the growing number of insurance cancellation notices on account of non-payment of premiums which have the effect of making the Registry of Motor Vehicles a collection agency, legislation is recommended by the Department.

#### 3. *Establishment of Building Lines on State Highways*

In order to provide adequately for future requirements for the construction or reconstruction of State highways the Department recommends that provision be made for the establishing of building lines on State highways at such locations as the Department may deem necessary.

### APPROPRIATIONS

Chapter 245, Acts of 1931, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

#### Item *Requirements for Extinguishing the State Debt*

214. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of seven hundred fifteen thousand five hundred sixty-six dollars and fifty cents, payable from the following accounts and funds in the following amounts:—from the balance of the receipts of the sale of the Boston dry dock, two hundred sixteen thousand seven hundred ninety dollars and thirty-five cents; from the Highway Fund, the sum of two hundred seventy-three thousand five hundred sixty-six dollars and fifty cents; and the remainder from the General Fund.. . . .

\$715,566 50

Item

Interest on the Public Debt

215.

For the payment of interest on the direct debt of the commonwealth, a sum not exceeding eight hundred forty-four thousand one hundred forty dollars and seventy-five cents, of which sum two hundred eighty-three thousand four hundred fifty-six dollars and twenty-five cents shall be paid from the Highway Fund . . . . .

\$844,140 75

Service of the Department of Banking and Insurance

Division of Insurance:

292.

For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred ninety thousand dollers, of which sum not more than twenty-eight dollars may be charged to the Highway Fund . . . . .

190,000 00

Service of the Department of Corporations and Taxation

Corporation and Tax Divisions:

300.

For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred twenty-two thousand dollars, of which sum not more than twenty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so-called . . . . .

222,000 00

Service of the Department of Public Safety

Division of State Police:

582.

For the salaries of officers, including detectives, a sum not exceeding four hundred ten thousand dollars, of which sum not more than one hundred forty-nine thousand dollars may be charged to the Highway Fund . . . . .

410,000 00

584.

For other necessary expenses of the uniformed division, a sum not exceeding three hundred seventy-two thousand dollars, of which sum not more than one hundred forty-eight thousand seven hundred and thirty dollars may be charged to the Highway Fund . . . . .

372,000 00

Service of the Department of Public Works

The appropriations made in the following three items are to be paid two thirds from the Highway Fund and one third from the Port of Boston receipts:

604.

For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars . . . . .

19,500 00

605.

For personal services of clerks and assistants to the commissioner, a sum not exceeding ninety-one hundred and forty dollars . . . . .

9,140 00

606.

For traveling expenses of the commissioners, a sum not exceeding three thousand dollars . . . . .

3,000 00

Functions of the department relating to highways (the following appropriations, except as othersiwe provided, are made from the Highway Fund):

607.

For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding eighty-nine thousand dollars . . . . .

89,000 00

608.

For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding eleven thousand dollars . . . . .

11,000 00



## Item

609.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding thirteen thousand dollars.	\$13,000 00
610.	For the construction and repair of town and county ways, a sum not exceeding two million five hundred thousand dollars	2,500,000 00
611.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million one hundred seventy-five thousand dollars	1,175,000 00
611a.	For payments to the cities and certain towns of the commonwealth, as authorized by section seven of chapter one hundred and twenty-two of the acts of the present year, a sum not exceeding two million five hundred thousand dollars	2,500,000 00
612.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general, and for care and repair of road-building machinery, a sum not exceeding five million two hundred thousand dollars.	5,200,000 00
613.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding two million four hundred eighty thousand dollars	2,480,000 00
614.	For administering the law relative to advertising signs near highways, a sum not exceeding seventeen thousand dollars, to be paid from the General Fund	17,000 00
615.	For expenses of studies and for necessary payments during this fiscal year on account of any of the first twenty-one projects for the abolition of grade crossings contained in the program approved by the department of public utilities, as authorized by sections sixty-five to eighty, inclusive, of chapter one hundred and fifty-nine of the General Laws, as amended, a sum not exceeding seven hundred thousand dollars; and in addition thereto the sum of three hundred nineteen thousand one hundred thirteen dollars and thirty-four cents now in the treasury from the proceeds of the last issue of bonds by the commonwealth for the abolition of grade crossings is hereby made available for expenditures authorized by said sections with the approval of the department of public works; and any unexpended balance remaining at the end of the current fiscal year may be used in the succeeding year	700,000 00
Registration of Motor Vehicles:		
616.	For personal services, a sum not exceeding nine hundred fifty thousand dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	950,000 00
617.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding six hundred twenty-nine thousand dollars, to be paid from the Highway Fund.	629,000 00
618.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding twenty-five hundred dollars, to be paid from the Highway Fund	2,500 00
619.	For expenses of an investigation to provide measures for safety on the highways and for the reduction of accidents,	

## Item

a sum not exceeding twenty thousand dollars, to be paid from the Highway Fund . . . . . \$20,000 00

## Special:

620. For expenditures by the department of public works, as authorized by chapter four hundred and twenty of the acts of nineteen hundred and thirty, a sum not exceeding one million two hundred and seventy-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund . . . . . 1,275,000 00
- Functions of the department relating to waterways and public lands:
621. For personal services of the chief engineer and assistants, a sum not exceeding fifty-two thousand dollars . . . . . 52,000 00
622. For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies, and equipment, a sum not exceeding twenty-five hundred dollars . . . . . 2,500 00
623. For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars . . . . . 5,000 00
624. For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding thirty thousand dollars . . . . . 30,000 00
625. For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding one hundred seventy-five thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered . . . . . 175,000 00
626. For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as amended, a sum not exceeding one thousand dollars . . . . . 1,000 00
627. For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars . . . . . 500 00
628. For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred twelve thousand dollars, to be paid from the Port of Boston receipts . . . . . 112,000 00
629. For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars, to be paid from the Port of Boston receipts . . . . . 8,000 00
630. For the maintenance and improvement of commonwealth property under the control of the department in connection



## Item

	with its functions relating to waterways and public lands, a sum not exceeding one hundred thousand dollars, to be paid from the Port of Boston receipts	\$100,000 00
631.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding four thousand dollars	4,000 00
632.	For the compensation of dumping inspectors, a sum not exceeding three thousand dollars	3,000 00
633.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding five thousand dollars	5,000 00
	Specials:	
634.	For dredging channels and filling flats, a sum not exceeding one hundred ten thousand dollars to be paid from the, Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose	110,000 00
635.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding four thousand dollars	4,000 00
636.	For the construction of railroads and piers and for the development of land at South Boston and East Boston, a sum not exceeding twenty thousand dollars, to be paid from the Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose	20,000 00
637.	For the purchase of certain land formerly owned by the commonwealth, a sum not exceeding twenty thousand dollars, to be paid from the Port of Boston receipts	20,000 00
638.	For the expense of work authorized by chapter four hundred and five of the acts of nineteen hundred and thirty, a sum not exceeding seventy thousand dollars	70,000 00

The following four items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

661.	For maintenance of boulevards and parkways, a sum not exceeding six hundred eight thousand dollars	\$608,000 00
662.	For resurfacing of boulevards and parkways, a sum not exceeding three hundred thousand dollars	300,000 00
663.	For certain improvements in the Charles River basin, as authorized by chapter three hundred and seventy-one of the acts of nineteen hundred and twenty-nine, a sum not exceeding one hundred fifty-five thousand dollars, representing the state's portion of the cost of such improvements required for the current year, the same to be in addition to any amount heretofore appropriated for the purpose	155,000 00
664.	For maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding fifty-five hundred dollars	5,500 00

*Department of Public Works*

For	administering the law relative to advertising signs near highways, the sum of seventeen hundred eighty-two dollars and seventy-one cents, to be paid from the General Fund	1,782 71
For	the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general, and for care and repair of road-building machinery, the sum of eighty-five dollars, to be paid from the Highway Fund.	85 00

Item

Chapter 460, Acts of 1931, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

*Service of the Department of Corporations and Taxation*  
Corporation and Tax Divisions:

- 300. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding fifteen hundred dollars, to be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so-called, and to be in addition to any amount heretofore appropriated for the purpose . . . . . \$1,500 00
- 301. For traveling expenses, a sum not exceeding one thousand dollars, to be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so-called, and to be in addition to any amount heretofore appropriated for the purpose . . . . . 1,000 00

*For the Service of the Department of Public Works*  
Functions of the department relating to highways (the following appropriations are made from the Highway Fund):

- 610. For the construction and repair of town and county ways, a sum not exceeding two hundred thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to cover the cost of any work done in the city of Revere during the present year. . . . . 200,000 00
- 612. The appropriation heretofore made under this item is hereby changed to include the expense of lighting any road authorized by law.
- 615a. For expenses of an investigation relative to the advisability of constructing certain highways, as authorized by chapter thirty-two of the resolves of the present year, a sum not exceeding twelve thousand dollars . . . . . 12,000 00
- 615b. For expenses authorized by law relative to preliminary estimates and plans for the construction of a bridge over the Saugus river between Point of Pines and the state highway leading to Lynn, a sum not exceeding seventy thousand dollars . . . . . 70,000 00
- 615c. For expenses of a study relative to a bridge over Weymouth Fore river, a sum not exceeding ten thousand dollars . . . . . 10,000 00

Registration of Motor Vehicles:

- 616. For personal services, a sum not exceeding three thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose . . . . . 3,000 00
- 617. For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding six thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose . . . . . 6,000 00

Functions of the department relating to waterways and public lands:

- 625a. For expenses of building an addition and for improvements to the state pier at New Bedford, a sum not exceeding fifty thousand dollars . . . . . 50,000 00



## Item

625b.	For expenses of constructing sea walls and shore protection in the town of Marshfield, as authorized by and subject to the conditions specified in a certain act of the present year, a sum not exceeding one hundred thousand dollars.	\$100,000 00
625c.	For expenses of constructing sea walls and shore protection in the town of Scituate, as authorized by and subject to the conditions specified in a certain act of the present year, a sum not exceeding thirty-seven thousand five hundred dollars	37,500 00
627.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding one thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	1,000 00
<i>Service of Metropolitan Boulevards (Highway Fund)</i>		
661a.	For certain expenses incurred in previous years for the maintenance of boulevards, a sum not exceeding fifty-eight hundred and fifty dollars, to be paid from the Highway Fund	5,850 00
661b.	For the construction of certain boulevards by the metropolitan district commission, as authorized by a certain act of the present year, a sum not exceeding two hundred seventy-five thousand dollars, to be paid from the Highway Fund.	275,000 00

*Unclassified Accounts and Claims*

677.	For the payment of claims authorized by certain resolves of the present year, a sum not exceeding eleven thousand six hundred seventy-three dollars and forty-two cents, of which sixty-five hundred fifty-nine dollars and ninety-four cents shall be charged to the Highway Fund. Said payments shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted in full compensation on the part of the commonwealth in respect thereto.	11,673 42
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## OTHER APPROPRIATIONS

625d.	For the construction of a breakwater or other means of protection for property along the water front in the Hough's Neck section of the city of Quincy, a sum not exceeding twenty thousand dollars, provided, that before any work is done by the department of public works the county of Norfolk and the city of Quincy shall contribute the sum of ten thousand dollars each, and pay the same into the treasury of the commonwealth, to be used in addition to the twenty thousand dollars hereby appropriated by the commonwealth	20,000 00
625e.	For the construction of a breakwater or other means of protection for property at or near Long Beach in the town of Rockport, a sum not exceeding twenty-five thousand dollars, provided that before any work is done by the department of public works the town of Rockport shall contribute and pay into the treasury of the commonwealth the sum of twenty-five thousand dollars, to be used in addition to the twenty-five thousand dollars hereby appropriated by the commonwealth.	25,000 00

## Attorney General's Department:

615d.	For the construction of a state highway in the city of Revere, as provided by a law of the present year, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund	25,000 00
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Item

DEFICIENCIES

*Service of the Department of Public Works*

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general, and for care and repair of road-building machinery, the sum of one hundred thirty-eight dollars and sixty-one cents, to be paid from the Highway Fund . . . . .	138 61
For the purpose of enabling the department of public works to secure federal aid for the construction of highways, the sum of one hundred eighty-one dollars and fifty cents, to be paid from the Highway Fund . . . . .	181 50

SECTION 3. The following changes and transfers, unless otherwise specified, are hereby made in chapter 245 of the acts of the present year (general appropriation act), and are, in part, as follows:—

Payment to towns entitled to aid for repair and improvement of public ways, etc.:

611. There shall be paid from this item on or after June first, of the current year, without further contract, to all towns entitled to aid for repair and improvement of public ways under section twenty-six of chapter eighty-one of the General Laws, as amended, a sum aggregating two hundred twenty thousand seven hundred and fifty dollars, the amounts so paid being payments referred to under provisions of section seven of chapter one hundred and twenty-two of the acts of the present year.

Item 612 amended:

612. This item is hereby amended by inserting after the word “machinery” the words:—and for the purchase and improvement of a nursery for roadside planting.

Item 625 amended:

625. This item is hereby amended by inserting after the word “year” in the eighth line the words:—may be expended in the succeeding fiscal year.

Chapter 465, Acts of 1931 (Extra Session), making appropriations for the employment of additional persons as a measure of relief during the present unemployment emergency.

SECTION 1. To provide for the employment of additional labor and other personal services as a measure of relief during the present emergency caused by unemployment, the sums set forth in section two, for the several purposes and subject to the conditions therein specified, are hereby appropriated from the general fund or revenue of the commonwealth unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

*Service of the Department of Public Works*

Item A:

For removing the abandoned hulks or wrecks lying along the waterfront of East Boston and Chelsea Creek, a sum not exceeding sixty-five thousand dollars . . . . .	\$65,000 00
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## FINANCIAL STATEMENTS

## Summary of Income, Year Ending November 30, 1931

## HIGHWAY FUND

*Section 34, Chapter 90, General Laws, as amended  
(See Chapter 288, Acts of 1925.)*

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts . . . . .	\$6,901,140 06	
Gasoline tax, gross . . . . .	13,936,029 92	
Contributions for highways and assessments (G. L., Ch. 81) . . . . .	459,059 81	
Appropriation balances of previous years reverting . . . . .	95	
Contributions and refunds . . . . .	67,557 30	
Sale of old materials and buildings . . . . .	1,066 80	
Reimbursement for repairs to guard rail and other property . . . . .	8,788 43	
		\$21,373,643 27
Less—Refunded receipts . . . . .		314,388 88
		\$21,059,254 39

## PORT OF BOSTON FUND

*Chapter 91, General Laws*

Rents (leases and permits) . . . . .	\$199,723 61	
Refunds of previous years . . . . .	8 98	
Reimbursement for services (inspection of dumping dredged material in Boston Harbor) . . . . .	411 94	
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.) . . . . .	193,452 29	
Use of Commonwealth Pier No. 1 (rentals, etc.) . . . . .	551 07	
Use of Hayward Creek Property (rentals) . . . . .	112 00	
Revenue from permits for dumping dredged material at receiving basins . . . . .	1,011 78	
License charges (for tidewater displacement and occupying Commonwealth tide lands) Boston Harbor . . . . .	41,669 69	
Telephone pay station receipts . . . . .	100 86	
Sales of land, South Boston . . . . .	1 00	
Sales of Boston Harbor maps . . . . .	13 75	
		\$437,056 97

## DEPARTMENT INCOME

*(Ordinary Revenue)*

Highway and Route Maps and bulletins . . . . .	\$28 25	
Reimbursement for services (heating D Street Building) . . . . .	174 00	
Sales (specifications and plans for contracts) . . . . .	1,039 00	
Sale of land . . . . .	250 00	
Interest on Bank accounts . . . . .	831 69	
Aircraft licenses . . . . .	942 00	
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, ch. 196, Acts of 1925) . . . . .	380 76	
Penalty for violation of aircraft laws . . . . .	50 00	
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor . . . . .	6,981 26	
Certified copying charges . . . . .	148 00	
Sale of Atlas sheets and miscellaneous plans . . . . .	950 00	
Use of Province Lands (S 25, C. 91, G. L.) . . . . .	298 35	
Permits for advertising signs . . . . .	14,278 20	
Use of New Bedford State Pier . . . . .	6,000 00	
		\$32,351 51

IMPROVEMENT OF RIVERS AND HARBORS TRUST  
((Sections 11, 29, chapter 91, General Laws)

Contributions from towns, individuals or others . . . \$142,476 14

HIGHWAY TRUST  
(Section 30, Chapter 81, General Laws)

Federal Aid (reimbursement from United States Government) \$4,053,410 22

*Funds Contributed for Work under Special Acts*

Contribution by Town of Hull (Chap. 119, Acts of 1931)	\$150,000 00	
Contribution by Town of Marshfield (Ch. 407, Acts of 1931)	66,666 00	
Contribution by County of Plymouth, (Ch. 407, Acts of 1931)	33,334 00	
Contribution by County of Plymouth, (Ch. 424, Acts of 1931)	12,500 00	
Contribution by Town of Scituate, (Ch. 424, Acts of 1931)	25,000 00	
Contribution by City of Taunton, (Ch. 405, Acts of 1930)	30,000 00	
Contribution by Town of Rockport, (Ch. 460, Acts of 1931)	25,000 00	
		\$342,500 00
Total		\$26,067,049 23

Expenditures

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 245, 460 and 465, Acts of 1931, during the fiscal year ending Nov. 30, 1931, were as follows:

ADMINISTRATIVE

Commissioners, Associate Commissioners, personal services of clerks, stenographers, and commissioners' travel	\$30,356 13	
Public Works Department Building, land and services	191,526 00	
		\$221,882 13

RELATING TO HIGHWAYS

<i>Personal Services</i> —Chief Engineer, clerks, and stenographers		\$88,478 99
<i>State Highways—Construction</i> (Chapter 81, G. L.)		
General Contract Work	\$5,259,067 08	
Engineering (Supervision)	726,206 47	
Rent of office, Commonwealth Pier 5	7,500 00	
Highway Testing Laboratory	15,184 18	
Hingham-Hull (Chap. 119, Acts of 1931)	329,168 05	
		6,337,125 78
<i>Maintenance and Repair of State Highways</i> (Chapter 81, General Laws)		
<i>Reconstruction of State Highways</i>		
General Contract Work	\$4,272,059 51	
Engineering, supervision on reconstruction	485,608 34	
		4,757,667 85



*Ordinary Maintenance*

General Maintenance . . . . .	\$1,353,599	35
Engineering (supervision) . . . . .	315,060	93
Highway Testing Laboratory . . . . .	13,572	31
Care and repair of road building machinery . . . . .	337,726	03
Removal of snow from highways . . . . .	509,750	22
Roadside planting and development . . . . .	68,120	58
Traffic, engineering, signs and traffic count . . . . .	165,614	34
Paint manufacture . . . . .	30,512	40
Newburyport Bridge, Salisbury-Newburyport, over Merrimack River, maintenance and operation . . . . .	7,773	97
Brightman St. Bridge, Fall River-Somerset, maintenance and operation . . . . .	13,444	24
New Bedford-Fairhaven Bridge, Achushnet River (Chapter 426, Acts of 1930) . . . . .	22,762	93
Tercentenary signs on highways (Chapter 10, Resolves of 1930) . . . . .	635	96
Route and detour maps . . . . .	5,715	93
Rent for offices at Commonwealth Pier 5 . . . . .	7,500	00
Rent for offices at D Street . . . . .	12,500	00
Additional office at Commonwealth Pier 5 . . . . .	3,711	29

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\$2,868,000 48

*Construction and Repair of Town and County Ways*  
(Section 34, Chapter 90, General Laws) State's  
expenditure for work contracted for in cities and  
towns . . . . .

Engineering and expense (supervision) . . . . .	\$2,359,578	34
	516,812	02

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\$2,876,390 36

*Aiding Towns in the Repair and Improvement of  
Public Ways* (Section 26, Chapter 81, General  
Laws, as amended)

State's expenditures for work contracted for in cities and towns . . . . .	\$871,852	63
Engineering and expense (supervision) . . . . .	74,019	83

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\$945,872 46

*Special Acts:*

Expenditures under the provisions of Chapter 177, Acts of 1931 . . . . .	\$2,142,900	91
Distribution of gasoline tax to towns receiving aid under the provisions of Section 4 (Chapter 122, Acts of 1931) . . . . .	2,500,000	00
Distribution of gasoline tax to towns receiving aid under the provisions of Section 4, Chapter 122, Acts of 1931 (Sec. 26, Ch. 81) . . . . .	220,750	00
<i>Incidentals</i> (printing, postage, supplies, etc.) . . . . .	11,178	10
<i>Advertising signs, regulation of personal services and expenses</i> . . . . .	19,061	97
<i>Southern Traffic Route Construction</i> (Chapter 330 and 344, Acts of 1925, and Section 4, Chapter 369 and 398, Acts of 1926) Engineering and awards . . . . .	101	27
<i>Traffic Artery</i> in City of Cambridge, connecting Ale- wife Brook Parkway and Fresh Pond Parkway (Chapter 366, Acts of 1928) . . . . .		75
<i>Public Highway</i> , shore of Dorchester Bay, Quincy, (Chapter 259, Acts of 1928) . . . . .	1,005	73
<i>Highways in Malden, Braintree, Weymouth and Hingham</i> <i>Hingham, Braintree and Weymouth</i> . . . . .	\$16,677	83
Malden . . . . .	2,139	02

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\$18,816 85

<i>Bridges over location of Southern New England Railroad</i> , repairs (Chapter 308, Acts of 1930)	\$6,290	50
<i>Removal of Bridges, Palmer, Ludlow and Belcher-town</i> (Chapter 388, Acts of 1930)	8,704	60
<i>Highways in Metropolitan District</i> (Ch. 420, Acts of 1930)		
Section 1. Canton, Dedham, Wellesley, etc.	\$240,477	31
Section 2. Canterbury Street, Boston	30,972	86
Section 3. Land taking—Neponset River, Milton	22,483	52
Section 4. West Roxbury—Brookline Parkway	25,398	91
Section 5. Broadway, Revere Beach Parkway—grade separation, Everett	178,590	45
		<hr/>
		497,923 05
<i>Abolition of Grade Crossings</i> (Ch. 420, Acts of 1931)		93,736 28
Study Weymouth Fore River Bridge (Resolves 54, Chapter 460, Acts of 1931)		1,688 78
<i>Plans for new Saugus River Bridge</i> (Resolves 51, Chapter 460, Acts of 1931)		44,936 24
<i>State Highway</i> —Revere (Chapter 445, Acts of 1931)		3,959 80
<i>Suppression of gypsy and brown tail moths</i> on State highways, in cities and towns		12,985 25
		<hr/>
<i>Total Expenditures for Highways</i>	\$23,457,576	00

## EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles	\$1,580,903	40
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## SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General expenses	\$54,387	45
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*Boston Harbor:*

Maintenance and operation, Commonwealth Pier 1, East Boston	7,911	00
Maintenance and operation, Commonwealth Pier 5, South Boston	115,067	15
Maintenance of property	87,216	37
Dredging and filling	180,783	93
Streets, piers and railroads	14,760	24
Dredging Savin Hill Bay	4,471	58
Purchase of land, South Boston	20,000	00
Removal of hulks, East Boston (Ch. 465, Acts of 1931)	66	85

*Outside of Boston Harbor:*

Improvement of rivers and harbors	331,477	82
Repairing damages to shore	23,277	94
New Bedford State Pier, operation and maintenance	3,788	89
Construction and alterations	42,638	30
Expenses of province lands	5,000	00
Expenses of Plymouth property	4,713	89
Topographical survey	987	99
Stream gauging	5,134	52
Surveying state and town boundaries	1,285	17
Compensation for services of dumping inspectors	654	12
Chapter 300, Acts of 1930, Dike Province Lands	5,719	18
Chapter 407, Acts of 1931, Marshfield shore protection	96,273	53
Chapter 424, Acts of 1931, Scituate shore protection	56,708	11
Long Beach, Rockport	42,609	43
Chapter 405, Acts of 1931, Taunton River improvement	1,085	28

Total	\$1,106,018	74
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SUMMARY OF EXPENDITURES BY DEPARTMENT FOR YEAR ENDING NOVEMBER 30,  
1931

Administrative . . . . .	\$221,882 13
Relating to Highways. . . . .	23,457,576 00
Registry of Motor Vehicles . . . . .	1,580,903 40
Relating to Waterways . . . . .	1,106,018 74
Total . . . . .	<hr/> \$26,366,380 27

COOPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended, of approximately \$3,754,435.80 for cooperative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

**Relating to Highways**

GENERAL STATEMENT

*State Highways.* — During the year ending Nov. 30, 1931, the Department laid out new State highways amounting to 102.148 miles of highways in 65 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1931, 1.175 miles of State highways were discontinued or abandoned. The total length of State highways at the end of the year was 1,769.669 miles. Work was completed on 65.028 miles of State highways, portions of which were laid out in 1930.

*Highways Constructed in 1931.* — Construction has been completed on 65.028 miles of State highways, 208.925 miles of highways under the provisions of section 34, chapter 90, General Laws, as amended, and 12.362 miles of highways under the provisions of special acts, making a total of 286.315 miles completed during the year.

Of the above highways completed this year 19.470 miles were of gravel; 16.236 miles were of bituminous concrete; 120.255 miles were of bituminous macadam; 37.168 miles were of reinforced concrete; 53.879 miles were of gravel with a bituminous treatment; 4.823 miles were of dual type (reinforced cement concrete and bituminous macadam); 0.108 miles were of waterbound macadam with a bituminous treatment; 33.604 miles were of bituminous concrete (retread method); 0.772 miles were of sheet cement concrete.

*Resurfacing, Reconstruction and Widening of State Highways.* — During the year 36.204 miles of State highways were widened, but not resurfaced, and 64.524 miles were resurfaced or reconstructed and widened. These figures are for completed work. There is uncompleted work in various stages on a number of miles of road where the work will be completed next year.

Of the roads resurfaced or reconstructed this year, 37.009 miles were of bituminous macadam, 9.574 miles were of bituminous concrete, 5.665 miles were of reinforced concrete, 9.742 miles were of dual type (reinforced cement concrete and bituminous macadam), 2.534 miles were of bituminous concrete (retread method).

*Surveys, Plans and Estimates.* — During the year preliminary surveys, plans and estimates were made as follows:

*For State Highway Construction.* — Preliminary surveys in 45 towns, 83.264 miles; plans in 34 towns, 66.868 miles; preliminary estimates in 39 towns, 72.677 miles; lines and grades in 56 towns, 98.607 miles and final surveys in 33 towns, 64.491 miles.

*For State Highway Reconstruction and Resurfacing.* — Preliminary surveys in 49 towns, 72.250 miles; plans in 42 towns, 71.972 miles; preliminary estimates in 39 towns, 65.268 miles; lines and grades in 49 towns, 87.253 miles; final surveys in 35 towns, 63.620 miles.

*Under section 34, Chapter 90, General Laws, as amended.* — Preliminary surveys in 178 towns, 234.464 miles; plans in 151 towns, 220.098 miles; preliminary estimates in 160 towns, 152.340 miles; lines and grades in 212 towns, 208.969 miles; final surveys in 111 towns, 117.034 miles.

Under the provisions of various Acts and Resolves, surveys were made as follows:

Chapter 445, Acts of 1931: Section 1, — 0.60 miles of preliminary survey and plans in 1 city; Section 2, — 0.60 miles of preliminary survey and plans in 1 city; Section 3, — 0.611 miles of preliminary survey and plans in 1 city.

Chapter 420, Acts of 1930: Section 1, — 12.275 miles of reconnaissance survey and plans in 4 towns and 1 city; 9.727 miles of preliminary survey and plans in 4 towns and 1 city; 11.05 miles of estimate in 4 towns and 1 city; Section 2, — 2.576 miles of reconnaissance survey and plans in 1 city; 7.267 miles of preliminary survey and plans in 1 city; 2.10 miles of estimate in 1 city; Section 3, — 4.044 miles of preliminary survey and plans in 1 town and 1 city; Section 4, — 4.266 miles of reconnaissance survey and plans in 1 town and 1 city; 4.967 miles of preliminary survey and plans in 1 town and 1 city; 2.713 miles of estimate in 1 town and 1 city; Section 5, — 0.454 miles of preliminary estimate, stakes and final survey in 1 city.

Chapter 38, Resolves of 1931: Section 1, — preliminary survey and plans in 1 city, 0.963 miles; Section 2, — reconnaissance survey and plans in 5 towns and 1 city, 20.05 miles.

Chapter 51, Resolves of 1931: 0.738 miles of preliminary survey and plans in 2 cities.

Chapter 54, Resolves of 1931: preliminary survey and plans in 1 town and 1 city, 0.316 miles.

*Grade Crossing Elimination.* — Chapter 417, Acts of 1930: 3.52 miles of preliminary survey in 5 towns; 3.37 miles of plans in 5 towns; 1.11 miles of preliminary estimate in 3 towns; 0.625 miles of lines and grades in 1 town.

*Reconnaissance.* — 204 miles of survey and 183 miles of plans in 81 towns.

*Chapter 90 Reconnaissance.* — 14 miles of survey and plans in 6 towns.

*Advice to Other State Departments.* — 0.284 miles of preliminary survey plans and estimate in 1 city.

Precise levels have been made, covering 892 miles in 183 towns.

Plans to accompany decrees for street railway locations on State highways have been made in 3 towns.

*Permits.* — There were 2,126 permits issued during the year for opening or occupying State highways for various purposes.

*Engineering Advice to Municipal Authorities.* — The Department furnished without charge engineering advice to 27 cities and towns in accordance with the provisions of section 1, chapter 81, General Laws.

*Approval of Specifications.* — The Department approved during the year, under the provisions of section 7, chapter 44, General Laws, as amended, specifications for the construction of roads in 28 towns and cities.

*Approval of Bridge Plans.* — The Department approved during the year, under the provisions of chapter 313, Acts of 1923, plans for the construction of bridges in 10 towns and cities.

#### PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; hearings on petitions for the amendment or revision of permits for the operation of bus lines in 13 cases; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 59 cases; on the matter of outdoor advertising in 5 towns and cities; on the matter of special regulations for motor vehicles in Medford, Milton, Revere, Reading, Falmouth, Wakefield, Chelsea and Springfield; on petitions for the relocation of street railway tracks in Dedham, Greenfield, Framingham and Natick; on a request for the re-naming of the Boston-Worcester Turnpike; and on the abolition of grade crossings in Newbury, Littleton, Norwood, Ayer, Waltham, Lincoln, Somerville and Lowell.



Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	81	88
Work under section 34, chapter 90, General Laws, as amended	16	430
Work under section 26, chapter 81, General Laws, as amended	178	178
Work under Special Act		5
	<hr/> 275	<hr/> 701

### STATE HIGHWAYS

#### PETITIONS FOR STATE HIGHWAYS

General Laws, chapter 81, section 4, provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows: —

SELECTMEN OF FOXBOROUGH. — Road locally known as Norfolk Street, extending from the dividing line between the towns of Wrentham and Foxborough, to the junction of Norfolk and Main Streets. Received Dec. 10, 1930.

SELECTMEN OF WRENTHAM. — Road locally known as Norfolk Street, extending from the dividing line between the towns of Plainville and Wrentham to the dividing line between the towns of Wrentham and Foxborough. Received Dec. 10, 1930.

SELECTMEN OF NORTH ATTLEBOROUGH. — Road locally known as Washington Street, extending from the junction of Washington and Park Streets to the dividing line between the towns of North Attleborough and Plainville. Received Dec. 12, 1930.

SELECTMEN OF PLAINVILLE. — Road locally known as Norfolk Street, extending from the dividing line between the towns of North Attleborough and Plainville to the dividing line between the towns of Plainville and Wrentham. Received Dec. 12, 1930.

SELECTMEN OF SOUTHBOROUGH. — Road locally known as the Worcester Turnpike, extending from White's Corner to the dividing line between the towns of Southborough and Framingham. Received Dec. 24, 1930.

SELECTMEN OF FRAMINGHAM. — Road locally known as the Worcester Road, extending from the dividing line between the towns of Southborough and Framingham to the westerly side of the Sudbury River Bridge. Received Dec. 31, 1930.

SELECTMEN OF LONGMEADOW. — Road extending from the intersection of the southerly line of Elm Avenue with the easterly line of Longmeadow Street, over a new location to a point on the dividing line between the towns of Longmeadow and East Longmeadow about one and one-half miles northerly from the Connecticut line. Received Jan. 29, 1931.

SELECTMEN OF FRAMINGHAM. — Road extending from a point on the Worcester Road about 1,000 feet east of the dividing line between the towns of Framingham and Southborough, westerly over a new location, across the Old Colony Railroad to the dividing line between the towns of Framingham and Southborough. Received Feb. 5, 1931.

SELECTMEN OF ERVING. — Road extending from a point on the State highway near Forest Street to the dividing line between the towns of Erving and Gill north of the junction of the Connecticut and Millers Rivers. Received Feb. 4, 1931.

SELECTMEN OF BILLERICA. — Road locally known as Boston Road, extending from the dividing line between the towns of Bedford and Billerica to the dividing line between the towns of Billerica and Chelmsford. Received Feb. 6, 1931.

SELECTMEN OF GREENFIELD. — Road extending from the dividing line between the towns of Greenfield and Gill, near Factory Village, to the junction of Gill Road and the Turners Falls Road. Received Feb. 4, 1931.

- SELECTMEN OF GILL.** — Road extending from the dividing line between the towns of Gill and Erving, north of the junction of the Connecticut and Millers Rivers to the dividing line between the towns of Gill and Greenfield, near Factory Village. Received Feb. 4, 1931.
- SELECTMEN OF SOUTHBOROUGH.** — Road extending from a point on the Framingham Road, near Willow Road, easterly over a new location to the dividing line between the towns of Framingham and Southborough. Received Feb. 4, 1931.
- SELECTMEN OF HULL.** — Road extending from Nantasket Avenue across Bay Street and along the Bay and west of the railroad to the dividing line between the towns of Hull and Hingham. Received Feb. 11, 1931.
- SELECTMEN OF HINGHAM.** — Road extending from Rockland Street, in whole or in part over a new location west of the railroad tracks, to the dividing line between the towns of Hingham and Hull. Received Feb. 11, 1931.
- SELECTMEN OF FRAMINGHAM.** — Road extending from the bridge on the Worcester Road over the Sudbury River to the dividing line between the towns of Framingham and Natick. Received Feb. 27, 1931.
- SELECTMEN OF RUSSELL.** — Road extending from the dividing line between the towns of Granville and Russell to the dividing line between the towns of Russell and Blandford. Received Feb. 25, 1931.
- SELECTMEN OF BECKET.** — Road extending from the dividing line between the towns of Becket and Otis northerly to the Bonny Rigg Four Corners. Received Feb. 25, 1931.
- SELECTMEN OF GRANVILLE.** — Road extending from the dividing line between the States of Massachusetts and Connecticut to the dividing line between the towns of Granville and Russell. Received Feb. 25, 1931.
- SELECTMEN OF OTIS.** — Road extending from the dividing line between the towns of Blandford and Otis to the dividing line between the towns of Otis and Becket. Received Feb. 25, 1931.
- SELECTMEN OF BLANDFORD.** — Road extending from the dividing line between the towns of Russell and Blandford northerly to the Woronoco-Blandford State Road. Also road extending from the northerly end of the present State highway in North Street to the dividing line between the towns of Blandford and Otis. Received Feb. 25, 1931.
- MAYOR AND ALDERMEN OF WORCESTER.** — Road extending from the dividing line between the town of Shrewsbury and the city of Worcester, near Harrington Street, to the dividing line between the city of Worcester and the town of Auburn in the southern part of the city near the Millbury line. Received Mar. 6, 1931.
- SELECTMEN OF AUBURN.** — Road extending from the dividing line between the city of Worcester and the town of Auburn in the northeastern part of the town, near the Millbury line, to a point on Southbridge Street near Tinker Hill Street in the southwestern part of the town. Received Mar. 6, 1931.
- SELECTMEN OF MILLBURY.** — Road extending from the dividing line between the city of Worcester and the town of Millbury near the point where the railroad tracks cross said line in the northerly part of the town, to a point about one mile distant northeasterly therefrom in said dividing line between the town of Millbury and the city of Worcester. Received Mar. 6, 1931.
- SELECTMEN OF SHREWSBURY.** — Road extending from the dividing line between the city of Worcester and the town of Shrewsbury near Harrington Street, to the dividing line between the towns of Shrewsbury and Northborough at a point about 600 feet south of the Worcester Turnpike. Received Mar. 6, 1931.
- SELECTMEN OF NORTHBOROUGH.** — Road extending from the dividing line between the towns of Shrewsbury and Northborough at a point about 600 feet south of the Worcester Turnpike to a point on the Boston Post Road near King Street. Received Mar. 6, 1931.
- SELECTMEN OF RICHMOND.** — Road locally known as Canaan Road extending from a point on Route No. 118 about two and a half miles from the Pittsfield line southwesterly to the New York state line. Received Mar. 9, 1931.
- SELECTMEN OF ANDOVER.** — Road extending from the dividing line between the towns of North Andover and Andover to the dividing line between the towns of Andover and Tewksbury. Received Mar. 12, 1931.



- SELECTMEN OF FOXBOROUGH.** — Road extending from the junction of Washington and Main Streets northeasterly, over Washington Street and new location to the dividing line between the towns of Foxborough and Walpole at the property now or formerly of Mary A. Pickering. Received Mar. 16, 1931.
- SELECTMEN OF SHARON.** — Road extending from the dividing line between the towns of Walpole and Sharon, at or near the property of Peterson Brothers, northeasterly over a new location to the dividing line between the towns of Sharon and Walpole, southwesterly of High Plain Street. Received Mar. 16, 1931.
- SELECTMEN OF PEMBROKE.** — Road extending from a point on Washington Street, about 4,000 feet north of Congress Street, southeasterly over a new location to the dividing line between the towns of Pembroke and Duxbury near Taylor Street. Received Mar. 12, 1931.
- SELECTMEN OF DUXBURY.** — Road extending from the dividing line between the towns of Pembroke and Duxbury near Taylor Street over a new location to a point on Summer Street near Franklin Street; also from a point on Summer Street near the Twin Schoolhouse over a new location to the dividing line between the towns of Duxbury and Kingston west of South Street. Received Mar. 12, 1931.
- SELECTMEN OF KINGSTON.** — Road extending from the dividing line between the towns of Duxbury and Kingston, west of Summer Street, over a new location to a point on Summer Street about 800 feet north of Tremont Street. Received Mar. 12, 1931.
- SELECTMEN OF FOXBOROUGH.** — Road extending from a point on Main Street near property of E. F. Kelly northwesterly, over a new location to the dividing line between the towns of Wrentham and Foxborough between Main Street and Pine Street. Received Mar. 23, 1931.
- SELECTMEN OF WRENTHAM.** — Road extending from a point on East Street near Everett Street easterly, over a new location to the dividing line between the towns of Wrentham and Foxborough between East Street and Pine Street. Received Mar. 23, 1931.
- SELECTMEN OF WALPOLE.** — Road extending from the dividing line between the towns of Foxborough and Walpole, at or near the property of Mary A. Pickering, northeasterly over a new location to the dividing line between Walpole and Norwood at a point westerly of Summer Street. Received Mar. 21, 1931.
- CITY COUNCIL OF LYNN.** — Road known locally as Walnut Street, extending from the dividing line between the city of Lynn and the town of Saugus to its intersection with Dungeon Avenue. Received Jan. 28, 1931.
- SELECTMEN OF RANDOLPH.** — Road extending from the southerly end of the 1909 section of State highway on North Main Street to the railroad bridge on said North Main Street. Received April 6, 1931.
- SELECTMEN OF NORTH ANDOVER.** — Road extending from the junction of Peters and Andover Streets northerly, over a new location, to a point on Osgood Street near the residence of Robert B. Smith. Received April 4, 1931.
- SELECTMEN OF ERVING.** — Road extending from the junction of Moore and Forest Streets southerly along Forest Street for about 1,400 feet to a point near Union Street. Received April 8, 1931.
- SELECTMEN OF DEERFIELD.** — Road extending from a point on the Greenfield Road west of the Boston & Maine Railroad bridge northerly to the dividing line between the towns of Deerfield and Greenfield. Received April 23, 1931.
- SELECTMEN OF GREENFIELD.** — Road extending from a point on the Deerfield Road west of the Boston & Maine Railroad bridge southerly to the dividing line between the towns of Greenfield and Deerfield. Received April 23, 1931.
- SELECTMEN OF LANCASTER.** — Road extending from the dividing line between the towns of Clinton and Lancaster to the dividing line between the towns of Lancaster and Bolton. Received April 24, 1931.
- SELECTMEN OF SEEKONK.** — Road extending from the junction of Fall River Avenue and Mink Street northwesterly over a new location to the dividing line between the States of Massachusetts and Rhode Island near the property now or formerly of Evan West. Received May 9, 1931.



- SELECTMEN OF MERRIMAC.** — Road extending from the easterly line of Merrimac Square, easterly along East Main Street to Mill Street. Received May 12, 1931.
- SELECTMEN OF NANTUCKET.** — Road locally known as Polpis Road extending from its junction with the State highway easterly through the village of Polpis and southeasterly to the village of Siasconset. Received May 14, 1931.
- SELECTMEN OF AMESBURY.** — Road extending from the junction of Haverhill Street and Hillside Avenue northeasterly along Haverhill Street to its junction with Main Street. Received June 3, 1931.
- SELECTMEN OF UXBRIDGE.** — Road extending from a point at or near the junction of Main Street and Ironstone Street, in a general southeasterly direction, in part over Ironstone Street and in part over new location, to the dividing line between the States of Massachusetts and Rhode Island. Received June 6, 1931.
- SELECTMEN OF CLINTON.** — Road locally known as Boylston Street, extending from the dividing line between the towns of Boylston and Clinton to the Lancaster Mills bridge or the square at the junction of Boylston Street and Cameron Street. Received June 17, 1931.
- COUNTY COMMISSIONERS OF HAMPSHIRE COUNTY.** — Road extending over a new location from a point on the Enfield Road in the town of Ware about three-fourths of a mile southerly of the dividing line between the towns of Enfield and Ware westerly through the towns of Ware and Belchertown to a point on the Enfield Road just west of the bridge over Jabish Brook. Received June 16, 1931.
- MAYOR AND CITY COUNCIL OF WESTFIELD.** — Road extending from the dividing line between the town of Southamptton and city of Westfield southerly to the northerly location line of the Holyoke and Westfield Railroad. Also road extending from the dividing line between the town of Southwick and city of Westfield northerly to a point at or near the bridge over the Westfield Little River. Received June 23, 1931.
- SELECTMEN OF BOYLSTON.** — Road known locally as Main Street, extending from the dividing line between the towns of Shrewsbury and Boylston to the dividing line between the towns of Boylston and Clinton. Received June 25, 1931.
- SELECTMEN OF SHREWSBURY.** — Road known locally as Clinton Street, extending from the dividing line between the city of Worcester and the town of Shrewsbury to the dividing line between the towns of Boylston and Shrewsbury. Received July 1, 1931.
- SELECTMEN OF SPENCER.** — Road locally known as Maple Street extending from Main Street southerly to the dividing line between the towns of Spencer and Charlton. Received July 23, 1931.
- SELECTMEN OF CHARLTON.** — Road extending from Charlton Depot northerly to the dividing line between the towns of Charlton and Spencer. Received July 20, 1931.
- MAYOR AND ALDERMEN OF BROCKTON.** — Road extending from the junction of Center and Quincy Streets westerly along Center Street to its junction with Lyman Street. Received August 20, 1931.
- SELECTMEN OF NORWOOD.** — Road extending from a point on the dividing line between the towns of Walpole and Norwood about 275 feet southeasterly from the point where Union Street crosses said line northerly over a new location to a point on the dividing line between the towns of Westwood and Norwood about 900 feet easterly from the Ellis railroad station. Received Sept. 1, 1931.
- SELECTMEN OF FRAMINGHAM.** — Road extending from the junction of Fountain and Waverly Streets southwesterly along the Hartford Turnpike and/or Central Turnpike to the dividing line between the towns of Framingham and Ashland. Received Sept. 9, 1931.
- SELECTMEN OF ASHLAND.** — Road extending from the dividing line between the towns of Framingham and Ashland southwesterly along the Hartford Turnpike and/or Central Turnpike to the dividing line between the towns of Ashland and Hopkinton. Received Sept. 9, 1931.



- SELECTMEN OF HOPKINTON.** — Road extending from the dividing line between the towns of Ashland and Hopkinton southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Hopkinton and Upton. Received Sept. 9, 1931.
- SELECTMEN OF UPTON.** — Road extending from the dividing line between the towns of Hopkinton and Upton southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Upton and Northbridge. Received Sept. 9, 1931.
- SELECTMEN OF NORTHBRIDGE.** — Road extending from the dividing line between the towns of Upton and Northbridge, southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Northbridge and Sutton. Received Sept. 9, 1931.
- SELECTMEN OF SUTTON.** — Road extending from the dividing line between the towns of Northbridge and Sutton southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Sutton and Oxford. Received Sept. 9, 1931.
- SELECTMEN OF OXFORD.** — Road extending from the dividing line between the towns of Sutton and Oxford southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Oxford and Webster. Received Sept. 9, 1931.
- SELECTMEN OF WEBSTER.** — Road extending from the dividing line between the towns of Oxford and Webster, southwesterly long the Hartford Turnpike and/ or Central Turnpike to Webster Center. Received Sept. 9, 1931.
- SELECTMEN OF WILLIAMSTOWN.** — Road extending from the junction of the Cold Spring and Petersburg Mountain Roads southwesterly along the Cold Spring Road to its junction with the River Road in South Williamstown. Received Oct. 20, 1931.
- SELECTMEN OF BEDFORD AND CARLISLE.** — A bridge over the Concord River on the main road from Bedford to Carlisle at the dividing line between the towns of Carlisle and Bedford. Received Oct. 22, 1931.
- SELECTMEN OF LAKEVILLE.** — Road extending from the dividing line between the city of Taunton and town of Lakeville easterly over a new location, to the dividing line between the towns of Lakeville and Middleborough on Poquoy Trout Brook. Also road known as Bedford Street extending from the Middleborough line to Main Street. Received Oct. 21, 1931.
- SELECTMEN OF MIDDLEBOROUGH.** — Road extending from the dividing line between the towns of Middleborough and Lakeville on Poquoy Trout Brook easterly, over a new location, to the junction of Bedford Street and Grove Street Extension. Received Oct. 21, 1931.
- MAYOR AND MUNICIPAL COUNCIL OF TAUNTON.** — Road extending from the Dean Street railroad crossing easterly along Dean Street and new location to the dividing line between the city of Taunton and town of Raynham southeast of the junction of Dean and South Streets. Also road extending from the dividing line between the city of Taunton and town of Raynham, at the Taunton River, easterly over new location to the dividing line between the city of Taunton and town of Lakeville. Received Oct. 29, 1931.
- SELECTMEN OF RAYNHAM.** — Road extending from the dividing line between the city of Taunton and the town of Raynham southeast of the junction of South and Dean Streets easterly, over a new location, to the dividing line between the town of Raynham and the city of Taunton. Received Oct. 30, 1931.
- SELECTMEN OF STERLING.** — Road extending from a point on Worcester Street about 1,300 feet north of the bridge over the Boston & Maine and New Haven Railroads northerly to Pratts Corner. Received Oct. 29, 1931.
- SELECTMEN OF WEST BOYLSTON.** — Road extending from the dividing line between the town of West Boylston and the city of Worcester northerly over the location of the former Worcester Consolidated Street Railway to a junction with the main road in West Boylston Village. Received Oct. 30, 1931.
- SELECTMEN OF SCITUATE.** — Road extending from a point on the dividing line between the towns of Cohasset and Scituate about four-tenths of a mile southwest of the tracks of the New York, New Haven & Hartford Railroad Company southeasterly, in part over a new location and in part over the Tack

Pond Road, to a point on Main Street at or near its intersection with Judge Cushing Road. Received Nov. 12, 1931.

SELECTMEN OF COHASSET. — Road extending from the dividing line between the towns of Hingham and Cohasset at a point about 500 feet south of East Street southeasterly, in part over a new location and in part over King Street, to a point on the dividing line between the towns of Cohasset and Scituate about four-tenths of a mile southwest of the tracks of the New York, New Haven & Hartford Railroad Company. Received Nov. 12, 1931.

SELECTMEN OF HINGHAM. — Road extending from a point on Summer Street about 300 feet west of Green Street, easterly, over a new location, to the dividing line between the towns of Hingham and Cohasset at a point about 500 feet south of East Street. Received Nov. 12, 1931.

SELECTMEN OF WILMINGTON. — Road known locally as Lowell Street, extending from the junction of Routes 38 and 129 easterly to the dividing line between the towns of Wilmington and Reading. Received Nov. 13, 1931.

BOARD OF PUBLIC WORKS OF READING. — Road known locally as Lowell Street, extending from the dividing line between the towns of Wilmington and Reading easterly to Reading Square. Received Nov. 13, 1931.

SELECTMEN OF WORTHINGTON. — Road extending from the dividing line between the towns of Huntington and Worthington northwesterly along the Main Road to Worthington Corners. Received Nov. 17, 1931.

MAYOR AND ALDERMEN OF WORCESTER. — Road extending from West Boylston Street to the dividing line between the city of Worcester and the town of West Boylston. Received Oct. 24, 1931.

## CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities: —

### *Wareham*

Dec. 9, 1930, contract made with John Iafolla Construction Company, of Boston, for reconstructing about 9,248 feet of State highway on the Marion Road, the surface consisting of bituminous macadam. The proposal amounted to \$63,741.50. Work completed July 25, 1931. Expenditure during 1931, \$71,045.03.

### *Wilbraham*

Dec. 9, 1930, contract made with The Lane Construction Corporation, of Meriden, Conn., for resurfacing and widening about 18,367 feet of State highway on the Boston Road, the surface consisting of reinforced cement concrete for about 8,488 feet, and bituminous concrete for about 9,879 feet. The proposal amounted to \$105,738.25. Work completed Aug. 18, 1931. Expenditure during 1931, \$111,450.61.

### *Monson-Palmer*

Dec. 9, 1930, contract made with Patrick J. Holland, of Lawrence, for widening about 13,640 feet of State highway on the Boston Road in Monson and Palmer, the surface consisting of reinforced cement concrete. The proposal amounted to \$102,170.70. Work completed Aug. 1, 1931. Expenditure during 1931, \$114,978.56.

### *Shrewsbury*

Dec. 9, 1930, contract made with F. Pritchard & Son, Inc., of Watertown, for moving buildings on the land of Ameen J. Antoun on the State highway in Shrewsbury, known as the Boston-Worcester Turnpike. The proposal amounted to \$17,900.00. Work completed July 3, 1931. Expenditure during 1931, \$18,000.00.

### *Shrewsbury*

Dec. 9, 1930, contract made with John Moran, Inc., of Fitchburg, for moving buildings on the land of Walter C. Tufts on the State highway in Shrewsbury, known as the Boston-Worcester Turnpike. The proposal amounted to \$350.00. Work completed Dec. 11, 1930. Expenditure during 1930, \$350.00.



*Shrewsbury*

Dec. 9, 1930, contract made with John Moran, Inc., of Fitchburg, for moving buildings on the land of Lucia D'Errico on the State highway in Shrewsbury, known as the Boston-Worcester Turnpike. The proposal amounted to \$2,271.00. Work completed Mar. 20, 1931. Expenditure during 1931, \$2,271.00.

*Chester-Huntington*

Dec. 16, 1930, contract made with The Fitchburg Concrete Construction Company, of Fitchburg, for constructing and reconstructing about 11,027 feet of State highway on the Jacobs Ladder, so called, in Chester, and about 8,940 feet of the same road in Huntington, the surface consisting of bituminous macadam. The proposal amounted to \$251,877.30. Work practically completed. Expenditure during 1931, \$213,500.48.

*Chilmark-West Tisbury*

Dec. 16, 1930, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for reconstructing about 5,770 feet of State highway on the South Road in Chilmark, and about 7,746 feet of State highway on the same road in West Tisbury, the surface consisting of bituminous concrete. The proposal amounted to \$50,183.40. Work completed Aug. 14, 1931. Expenditure during 1931, \$51,631.01.

*Sheffield*

Dec. 16, 1930, contract made with the New Haven Road Construction Co., Inc., of New Haven, Conn. for reconstructing about 14,120 feet of State highway on the Ashley Falls Road, the surface consisting of reinforced cement concrete for about 10,876 feet, and bituminous macadam for about 3,244 feet. The proposal amounted to \$88,733.20. Work completed Aug. 10, 1931. Expenditure during 1931, \$89,437.08.

*Bourne-Plymouth*

Dec. 23, 1930, contract made with Amos D. Bridge's Sons, Inc., of Hazardville, Connecticut, for reconstructing about 4,374 feet of State highway on the Sagamore Road in Plymouth, and about 11,193 feet of State highway on the same road in Bourne, the surface consisting of bituminous concrete. The proposal amounted to \$98,553.30. Work completed July 16, 1931. Expenditure during 1931, \$105,079.04.

*Barnstable*

Dec. 30, 1930, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 29,800 feet of State highway on new location, the surface consisting of bituminous concrete. The proposal amounted to \$190,823.05. Work completed Nov. 30, 1931. Expenditure during 1931, \$208,509.76.

*Foxborough-Wrentham-Plainville-North Attleborough*

Dec. 30, 1930, contract made with D. V. Frione & Company, of New Haven, Conn., for constructing about 2,113 feet of State highway on Washington Street in North Attleborough, 16,015 feet of State highway on the same road in Plainville, 15,159 feet of State highway on the same road in Wrentham, and about 1,130 feet of State highway on Norfolk Street in Foxborough, the surface consisting of reinforced cement concrete. The proposal amounted to \$470,585.80. Work practically completed. Expenditure during 1931, \$436,687.54.

*Southbridge-Sturbridge*

Dec. 30, 1930, contract made with the New Haven Road Construction Co., Inc., of New Haven, Conn., for reconstructing about 2,354 feet of State highway on the Sturbridge Road in Southbridge, and about 11,567 feet of State highway on the Southbridge Road in Sturbridge, the surface consisting of bituminous macadam. The proposal amounted to \$116,782.60. Work completed Sept. 24, 1931. Expenditure during 1931, \$129,374.70.

*Weston*

Dec. 30, 1930, contract made with F. Pritchard & Son, Inc., of Watertown, for raising and moving a gasoline filling station on land of George R. Slader at the

junction of the Boston Post Road and Sibley Road. The proposal amounted to \$640.00. Work completed Feb. 9, 1931. Expenditure during 1931, \$678.00.

*Weston*

Jan. 6, 1931, contract made with Peter Salvucci, of Waltham, for constructing and reconstructing about 980 feet of State highway on Central Avenue, and about 5,305 feet of State highway on School Street, the surface consisting of bituminous macadam. The proposal amounted to \$258,457.40. Work practically completed. Expenditure during 1931, \$272,933.62.

*Marlborough-Northborough*

Jan. 6, 1931, contract made with B. Perini & Sons, Inc., of Ashland, for reconstructing about 13,190 feet of State highway on the Boston Post Road in Marlborough, and about 18,375 feet of State highway on the same road in Northborough, the surface on about 12,150 feet in Marlborough and about 13,525 feet in Northborough consisting of bituminous macadam between two sections of reinforced cement concrete, and the surface on about 1,040 feet in Marlborough and 4,850 feet in Northborough consisting of reinforced cement concrete. The proposal amounted to \$467,279.25. Work practically completed. Expenditure during 1931, \$456,681.45.

*Hingham*

Jan. 20, 1931, contract made with Bradford Weston, of Hingham, for repairing a culvert on the State highway in Hingham, known as Otis Street. Work completed Feb. 18, 1931. Expenditure during 1931, \$1,251.11.

*Palmer*

Feb. 3, 1931, contract made with John Moran, Inc., of Fitchburg, for moving buildings on land of John C. and Nellie S. Wilson on the State highway in Palmer, known as the Boston Post Road. The proposal amounted to \$1,675.00. Work completed June 3, 1931. Expenditure during 1931, \$1,675.00.

*Fairhaven-New Bedford*

Feb. 4, 1931, contract made with Coleman Bros., Incorporated, of Boston, for repairing the bridges over New Bedford Harbor in the town of Fairhaven and city of New Bedford. The proposal amounted to \$95,800.00. Work completed Oct. 20, 1931. Expenditure during 1931, \$118,239.39.

*Avon*

Mar. 31, 1931, contract made with James J. Gordon, of Hingham, for moving buildings on land of Frank M. Herland on the State highway in Avon, known as East Main Street. The proposal amounted to \$925.00. Work completed Apr. 29, 1931. Expenditure during 1931, \$925.00.

*Framingham-Southborough*

Apr. 14, 1931, contract made with B. Perini & Sons, Inc., of Ashland, for constructing a steel plate girder bridge over the tracks of the New York, New Haven & Hartford Railroad Company on the Worcester Turnpike in Framingham, a steel stringer bridge over the Reservoir in Framingham, about 7,633 feet of State highway on the Worcester Turnpike in Southborough, and about 17,166 feet of State highway on the same road in Framingham, the surface in Framingham and Southborough, except over the bridge over the tracks of the New York, New Haven & Hartford Railroad Company and about 1,550 feet of State highway in Framingham, consisting of two sections of reinforced cement concrete separated by a loam space with bituminous macadam and gravel shoulders, the surface over the bridge and between the tracks of the New York, New Haven & Hartford Railroad Company consisting of bituminous concrete, and the remaining surface in Framingham consisting of bituminous macadam. The proposal amounted to \$744,374.30. Work practically completed. Expenditure during 1931, \$660,859.56.

*Northborough-Shrewsbury*

Apr. 14, 1931, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 16,833 feet of State highway on Grafton



Street in Shrewsbury, and about 11,357 feet of State highway on the same road in Northborough, the surface consisting of reinforced cement concrete except on about 605 feet of State highway in Northborough, the surface on about 605 feet in Northborough consisting of a strip of reinforced cement concrete constructed on each side of a strip of bituminous macadam. The proposal amounted to \$446,928.60. Work practically completed. Expenditure during 1931, \$414,493.19.

#### *Hingham-Hull*

Apr. 14, 1931, contract made with The Waterbury Road Construction Company, Inc., of Hartford, Conn., for constructing about 4,034 feet of State highway on Rockland Street in Hingham, about 6,419 feet of State highway on Rockland Street, about 300 feet of State highway on Bay Street, and about 335 feet of State highway on Nantasket Avenue, in Hull, the surface consisting of bituminous macadam. The proposal amounted to \$329,073.70. Work practically completed. Expenditure during 1931, \$319,673.33.

#### *Becket*

Apr. 14, 1931, contract made with Bertolini Brothers, of New Haven, Conn., for reconstructing about 29,608 feet of State highway on the "Jacob's Ladder" Road, the surface consisting of bituminous macadam. The proposal amounted to \$327,722.45. Work practically completed. Expenditure during 1931, \$280,930.24.

#### *Somerset-Swansea*

Apr. 29, 1931, contract made with the Sherry Construction Company, Inc., of Fall River, for reconstructing and widening about 9,737 feet of State highway on Fall River Avenue in Somerset, and about 22,019 feet of State highway on the same road in Swansea, the surface consisting of reinforced cement concrete constructed on each side of the present concrete surface, except at and adjacent to the bridges, where the surface consists of bituminous macadam. Work completed Sept. 10, 1931. The proposal amounted to \$177,559.55. Expenditure during 1931, \$202,124.34.

#### *Billerica*

May 5, 1931, contract made with R. G. Watkins & Son, Inc., of Amesbury, for reconstructing about 5,450 feet of State highway on the Boston-Lowell Road in Billerica, the surface consisting of bituminous macadam. The proposal amounted to \$36,967.79. Work completed July 11, 1931. Expenditure during 1931, \$34,345.49.

#### *Framingham*

May 5, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings on land of Ella E. Livingston on the State highway in Framingham, known as the Worcester Turnpike. The proposal amounted to \$1,368.00. Work completed Sept. 15, 1931. Expenditure during 1931, \$1,368.00.

#### *Huntington*

May 5, 1931, contract made with Tarbell & Leete, Inc., of Springfield, for moving buildings on the State highway, known as the Chester road. The proposal amounted to \$8,499.00. Work completed July 15, 1931. Expenditure during 1931, \$9,309.00.

#### *North Attleborough*

May 5, 1931, contract made with Jeremiah O'Leary, of Sharon, for moving buildings of Alfred J. Courtney on the State highway in North Attleborough, known as the Providence Turnpike. The proposal amounted to \$1,890.00. Work completed July 10, 1931. Expenditure during 1931, \$1,890.00.

#### *Plainville*

May 5, 1931, contract made with Jeremiah O'Leary, of Sharon, for moving buildings on the State highway in Plainville, known as Washington Street. The proposal amounted to \$1,777.00. Work completed May 29, 1931. Expenditure during 1931, \$1,777.00.

*Duxbury-Kingston-Pembroke*

May 6, 1931, contract made with Eastern Contracting Company, of Quincy, for constructing and reconstructing about 41,665 feet of State highway in Duxbury, Kingston and Pembroke on Washington Street and new location, the surface consisting of bituminous macadam. The proposal amounted to \$318,886.70. Work about two-thirds completed. Expenditure during 1931, \$284,529.61.

*North Andover*

May 12, 1931, contract made with M. McDonough Company, of Saugus, for constructing and reconstructing 14,300 feet of State highway on Stevens Street and new location, the surface consisting of bituminous macadam. The proposal amounted to \$113,652.93. Work practically completed. Expenditure during 1931, \$115,551.07.

*Bellingham-Mendon-Hopedale-Milford*

May 12, 1931, contract made with G. Bonazzoli & Sons, of Hudson, for constructing about 1,031 feet of State highway on the Milford Road in Bellingham, reconstructing about 5,510 feet of State highway on the same road in Mendon, 8,467 feet of State highway on the same road in Hopedale, and about 8,126 feet of State highway on the same road in Milford, the surface consisting of bituminous macadam. The proposal amounted to \$180,006.90. Work practically completed. Expenditure during 1931, \$158,668.36.

*Avon*

May 12, 1931, contract made with Powers Brothers, of Brockton, for reconstructing about 3,250 feet of State highway on East Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$24,412.90. Work completed July 31, 1931. Expenditure during 1931, \$26,488.70.

*Athol*

May 12, 1931, contract made with The John Turgeon Company, Inc., of Hartford, Conn., for moving buildings on land of Carroll R. Trevett on the State highway in Athol. The proposal amounted to \$1,225.00. Work completed June 30, 1931. Expenditure during 1931, \$1,225.00.

*West Tisbury*

May 12, 1931, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for resurfacing about 4,127 feet of State highway on the Tisbury Road, the surface consisting of bituminous concrete. The proposal amounted to \$9,423.50. Work completed July 23, 1931. Expenditure during 1931, \$51,631.01.

*Orange*

May 12, 1931, contract made with John Moran, Inc., of Fitchburg, for moving buildings on land of Annie M. Bacon Heirs on the State highway in Orange, known as East Main Street. The proposal amounted to \$1,474.00. Work completed May 28, 1931. Expenditure during 1931, \$1,474.00.

*Framingham*

May 19, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings on land of Wallace A. Kendall on the State highway in Framingham, known as the Boston-Worcester Turnpike. The proposal amounted to \$1,648.00. Work completed Sept. 15, 1931. Expenditure during 1931, \$1,648.00.

*Framingham*

May 19, 1931, contract made with The John Cavanagh and Son Building Moving Company, of Boston, for moving buildings on land of Hanna E. Clapp on the State highway in Framingham, known as the Boston-Worcester Turnpike. The proposal amounted to \$2,650.00. Work completed Aug. 18, 1931. Expenditure during 1931, \$2,650.00.



*Deerfield-Greenfield*

May 19, 1931, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing a steel bridge and approaches thereto on about 2,026 feet of State highway at the dividing line between the towns of Deerfield and Greenfield, the surface over the bridge consisting of bituminous concrete, and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$243,794.75. Work about three-fourths completed. Expenditure during 1931, \$179,843.14.

*Salisbury*

May 26, 1931, contract made with James E. Watkins Company, Inc., of Amesbury, for widening about 8,914 feet of State highway on the Newburyport Road, the surface consisting of bituminous macadam. The proposal amounted to \$16,904.00. Work completed July 18, 1931. Expenditure during 1931, \$16,315.12.

*Milton-Randolph-Quincy*

May 26, 1931, contract made with Ezekiel C. Sargent, of Quincy, for constructing about 5,305 feet of shoulders on the State highway in Randolph, 14,700 feet of shoulders on the State highway in Quincy, and about 1,900 feet of shoulders on the State highway in Milton, the surface consisting of bituminous macadam. The proposal amounted to \$8,693.00. Work completed Aug. 24, 1931. Expenditure during 1931, \$9,412.14.

*Southborough*

June 2, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings on land of Eugene and Mary Mauro, and Isaac and Flora Gelina, on the State highway in Southborough, known as the Boston-Worcester Turnpike. The proposal amounted to \$3,116.00. Work three-fourths completed. Expenditure during 1931, \$2,244.51.

*Southborough*

June 2, 1931, contract made with John Moran, Inc., of Fitchburg, for moving buildings on land of Walter E. Brewer on the State highway in Southborough, known as the Boston-Worcester Turnpike. The proposal amounted to \$1,670.00. Work completed Aug. 11, 1931. Expenditure during 1931, \$1,719.68.

*Erving*

June 9, 1931, contract made with the Lawton Construction Company, of Providence, R. I., for constructing a steel stringer bridge over Moore Street, a steel stringer bridge over the Central Vermont Railroad, and about 9,775 feet of State highway, the surface of the roadway consisting of bituminous macadam, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$193,597.10. Work about two-thirds completed. Expenditure during 1931, \$135,816.04.

*Southborough*

June 9, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings on land of Arthur Brewer on the State highway in Southborough, known as the Boston-Worcester Turnpike. The proposal amounted to \$3,187.00. Work completed Oct. 31, 1931. Expenditure during 1931, \$3,187.00.

*Newbury-Rowley*

June 16, 1931, contract made with M. McDonough Co., of Saugus, for constructing an extension to the concrete arch bridge over the tracks of the Boston & Maine Railroad in Rowley, reconstructing about 5,237 feet of State highway on High Street in Newbury, and reconstructing about 24,411 feet of State highway on Bay Road in Rowley, the surface consisting of bituminous macadam. The proposal amounted to \$211,454.80. Work practically completed. Expenditure during 1931, \$219,592.54.

*Hinsdale*

June 16, 1931, contract made with the Lee Construction Co., Inc., of Boston, for constructing a steel bridge and approaches on about 1,621 feet of State highway on new location and Taylor Street, the surface except over the bridge consisting

of bituminous macadam, the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$61,621.90. Work about three-fourths completed. Expenditure during 1931, \$45,805.12.

*Amesbury-Merrimac-Haverhill*

June 16, 1931, contract made with Patrick J. Holland, of Lawrence, for constructing and reconstructing about 42,710 feet of State highway on Amesbury Road in Haverhill, West Main and East Main Streets in Merrimac, and Haverhill Road in Amesbury, the surface consisting of bituminous macadam and reinforced cement concrete. The proposal amounted to \$135,049.80. Work completed Oct. 24, 1931. Expenditure during 1931, \$155,440.76.

*Southborough*

June 16, 1931, contract made with John Moran, Inc., of Fitchburg, for raising buildings of Robert H. and Edith S. Beals, and of Charles Fantony, on the State highway in Southborough. The proposal amounted to \$2,743.00. Work completed Aug. 18, 1931. Expenditure during 1931, \$2,743.00.

*Bernardston*

June 16, 1931, contract made with Warner Bros. and Goodwin, Inc., of Sunderland, for constructing a bridge and approaches on about 1,986 feet of State highway on Northfield Road, the surface except over the bridge consisting of bituminous macadam, the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$33,662.30. Work completed Oct. 24, 1931. Expenditure during 1931, \$27,471.86.

*Northborough*

June 23, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings of Muriel Lacier, Alice I. Mellen and Margaret A. Bottger on the Boston Post Road in Northborough. The proposal amounted to \$3,338.00. Work completed Nov. 2, 1931. Expenditure during 1931, \$2,550.00.

*Andover-North Reading-Reading*

June 23, 1931, contract made with Patrick J. Holland, of Lawrence, for constructing and reconstructing about 14,103 feet of State highway on North Main Street in Reading, 13,462 feet of State highway on the same road in North Reading, and 2,400 feet of State highway on the same road in Andover, including a bridge over Main Street in Andover, the surface, except over the bridge and about 1,675 feet of State highway in Andover, consisting of bituminous macadam between two sections of reinforced cement concrete, the surface over the bridge in Andover consisting of bituminous concrete, and the surface on 1,675 feet of State highway in Andover consisting of reinforced cement concrete. The proposal amounted to \$368,005.40. Work practically completed. Expenditure during 1931, \$423,976.24.

*Framingham-Southborough*

June 30, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings of Charles and Carolina Brusie on the State highway, known as the Boston-Worcester Turnpike, in Southborough, and of Katherine C. Warner on the same road in Framingham. The proposal amounted to \$1,325.00. Work about two-thirds completed. Expenditure during 1931, \$832.32.

*Groton-Pepperell*

June 30, 1931, contract made with D. and C. Construction Company, of Fitchburg, for reconstructing about 7,276 feet of State highway on Main Street in Groton, and about 1,317 feet of State highway on South Street in Pepperell, the surface consisting of bituminous macadam. The proposal amounted to \$80,800.00. Work about one-half completed. Expenditure during 1931, \$53,715.44.

*Kingston*

June 30, 1931, contract made with C. A. Batson Company, of Brockton, for moving buildings of Abbie Randall on Summer Street in the town of Kingston.



The proposal amounted to \$2,695.00. Work completed Sept. 25, 1931. Expenditure during 1931, \$2,772.36.

*Abington-Brockton*

June 30, 1931, contract made with Corrado & Lepore Construction Company, of Providence, R. I., for reconstructing about 3,467 feet of State highway on Center Street in Brockton, and constructing and reconstructing about 9,622 feet of State highway on Brockton Avenue in Abington, the surface consisting of bituminous macadam. The proposal amounted to \$79,890.20. Work completed Nov. 20, 1931. Expenditure during 1931, \$80,558.15.

*Erving*

July 14, 1931, contract made with John Moran, Inc., of Fitchburg, for moving dwelling of Alice F. Prouty on the State highway in Erving. The proposal amounted to \$2,670.00. Work completed Aug. 15, 1931. Expenditure during 1931, \$2,670.00.

*Foxborough-Sharon-Walpole-Wrentham*

July 21, 1931, contract made with State Construction Co., Inc., of Saugus, for constructing about 14,995 feet of State highway, including three bridges, in Foxborough, 6,762 feet of State highway in Walpole, 3,675 feet of State highway in Sharon, and 2,316 feet of State highway in Wrentham, the surface, except over the bridges and on about 2,316 feet of State highway in Wrentham and about 2,629 feet of State highway in Foxborough, consisting of reinforced cement concrete, the surface on about 2,316 feet of State highway in Wrentham and on about 2,629 feet of State highway in Foxborough consisting of bituminous macadam, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$441,548.10. Work about one-half completed. Expenditure during 1931, \$210,186.95.

*Deerfield*

July 28, 1931, contract made with The John Turgeon Co., Inc., of Hartford, Conn., for moving building of Francesco Bartugno on the State highway in Deerfield. The proposal amounted to \$2,150.00. Work completed Sept. 25, 1931. Expenditure during 1931, \$2,150.00.

*Greenfield*

Aug. 4, 1931, contract made with The John Turgeon Co., Inc., of Hartford, Conn., for moving building of Harry E. Ward on the southwesterly side of Cheap-side Bridge in Greenfield. The proposal amounted to \$2,050.00. Work completed Nov. 30, 1931. Expenditure during 1931, \$2,050.00.

*Mendon*

Aug. 4, 1931, contract made with William Melvin, of Milford, for moving school-house buildings on the State highway in the town of Mendon. The proposal amounted to \$1,600.00. Work completed Sept. 8, 1931. Expenditure during 1931, \$1,600.00.

*Auburn-Worcester*

Aug. 4, 1931, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing a bridge and about 24,536 feet of State highway on South-bridge Street in Auburn, and about 1,000 feet of State highway on the same street in Worcester, the surface except over the bridge consisting of reinforced cement concrete, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$368,251.35. Work about one-third completed. Expenditure during 1931, \$87,431.64.

*Gill-Greenfield*

Aug. 6, 1931, contract made with Kelleher Corporation, of Montague, for constructing a steel bridge at the Gill-Greenfield line, about 9,362 feet of State highway on the Gill road in Greenfield, and about 17,810 feet of State highway on the same road in Gill, the surface except over the bridge consisting of bituminous macadam, the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$356,234.00. Work about one-third completed. Expenditure during 1931, \$118,439.81.

*Rehoboth-Seekonk-Swansea*

Aug. 6, 1931, contract made with the Sherry Construction Company, Inc., of Fall River, for constructing, reconstructing and widening about 16,291 feet of State highway on Fall River Avenue and new location in Seekonk, about 3,661 feet of State highway on Fall River Avenue in Rehoboth, and about 6,993 feet of State highway on the same road in Swansea, the surface, except on about 4,340 feet of State highway in Seekonk, consisting of reinforced cement concrete or bituminous macadam constructed on each side of the present concrete surface, the surface on about 4,340 feet of State highway in Seekonk consisting of reinforced cement concrete. The proposal amounted to \$183,930.20. Work completed Nov. 28, 1931. Expenditure during 1931, \$178,336.00.

*Northborough*

Aug. 11, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving building of Edward B., Herbert W., and Chester J. Smith on the State highway in Northborough, known as the Boston Post Road. The proposal amounted to \$838.00. Work completed Nov. 19, 1931. Expenditure during 1931, \$641.07.

*Egremont*

Aug. 18, 1931, contract made with Bertolini Brothers, of Chester, for reconstructing about 16,968 feet of State highway on Molasses Hill Road, the surface consisting of bituminous macadam. The proposal amounted to \$132,316.70. Work about one-sixth completed. Expenditure during 1931, \$27,071.10.

*Brockton*

Sept. 1, 1931, contract made with Powers Brothers, of Brockton, for constructing about 4,763 feet of State highway on Centre Street, the surface consisting of bituminous macadam. The proposal amounted to \$36,041.80. Work completed Nov. 30, 1931. Expenditure during 1931, \$36,088.77.

*Gill-Erving*

Sept. 1, 1931, contract made with Simpson Bros. Corporation, of Boston, for constructing a bridge sub-structure over the Connecticut River. The proposal amounted to \$102,262.00. Work about four-fifths completed. Expenditure during 1931, \$80,581.87.

*Uxbridge*

Sept. 15, 1931, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 22,151 feet of State highway on Ironstone Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$266,548.15. Work about one-sixth completed. Expenditure during 1931, \$43,252.46.

*Hingham*

Sept. 15, 1931, contract made with Thomas Whalen & Sons, Inc., of Whitman, for widening about 4,808 feet of State highway on Summer and Rockland Streets in Hingham, the surface consisting of a section of reinforced cement concrete constructed on each side of the present concrete surface. The proposal amounted to \$21,732.80. Work completed Nov. 13, 1931. Expenditure during 1931, \$20,222.39.

*Millbury-Worcester*

Sept. 22, 1931, contract made with A. I. Savin Company, of Hartford, Conn., for constructing about 6,158 feet of State highway in Worcester, and about 5,065 feet of State highway in Millbury, including the construction of three bridges in Millbury, the surface except over the bridges in Millbury consisting of reinforced cement concrete, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$412,145.35. Work about one-sixth completed. Expenditure during 1931, \$75,398.02.

*Townsend*

Sept. 22, 1931, contract made with P. J. Keating Company, of Fitchburg, for constructing extensions to three bridges over Willard Brook and the approaches to



said bridges on the State highway in Townsend known as the Ashby Road, the surface consisting of gravel. The proposal amounted to \$34,667.60. Work about one-third completed. Expenditure during 1931, \$14,746.13.

#### *Salisbury*

September 29, 1931, contract made with James E. Watkins Company, Inc., of Amesbury, for reconstructing about 11,582 feet of State highway on the Beach Road, the surface consisting of bituminous macadam. The proposal amounted to \$68,344.10. Work about one-third completed. Expenditure during 1931, \$24,596.15.

#### *Huntington*

Sept. 29, 1931, contract made with Tarbell & Leete, Inc., of Springfield, for moving building of Fred and Josephine Frazier on the State highway in Huntington known as the Chester Road. The proposal amounted to \$2,185.00. Work about one-half completed. Expenditure during 1931, \$1,785.00.

#### *Townsend*

Oct. 6, 1931, contract made with P. J. Keating Company, of Fitchburg, for widening a bridge and approaches on the State highway known as the Ashby Road, the surface consisting of gravel. The proposal amounted to \$4,485.00. Work about one-half completed. Expenditure during 1931, \$2,009.67.

#### *Randolph*

Oct. 13, 1931, contract made with Powers Brothers, of Brockton, for constructing about 4,967 feet of State highway on North Main Street, the surface consisting of concrete. The proposal amounted to \$53,816.20. Work just commenced. Expenditure during 1931, \$2,321.18.

#### *Barnstable*

Oct. 13, 1931, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 5,116 feet of State highway on the Hyannis-Centerville Road, and about 8,900 feet of State highway on the Falmouth Road, the surface consisting of bituminous concrete. The proposal amounted to \$58,494.00. Expenditure during 1931, \$20,637.91. Work about two-fifths completed.

#### *Ashby*

Oct. 20, 1931, contract made with Antonio Pallotto, of Dracut, for widening a bridge and approaches on the State highway in Ashby, known as the Fitchburg Road, the surface consisting of bituminous macadam. The proposal amounted to \$27,325.50. Work about one-fourth completed. Expenditure during 1931, \$7,198.70.

#### *Framingham-Natick*

Oct. 20, 1931, contract made with B. Perini & Sons, of Ashland, for constructing a steel stringer bridge at Concord Street in Framingham, a steel stringer bridge at North Main Street in Natick, about 11,264 feet of State highway on Worcester Street in Framingham, and about 18,331 feet of State highway on the same road in Natick, the surface, except over the bridges, consisting of cement concrete, the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$646,045.14. Work just commenced. Expenditure during 1931, \$18,761.51.

#### *Sharon-Walpole-Norwood*

Nov. 3, 1931, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing about 6,177 feet of State highway on the Old Post Road in Sharon, 9,321 feet of State highway on the same road in Walpole, and about 13,325 feet of State highway on the same road in Norwood, the surface consisting of reinforced cement concrete. The proposal amounted to \$359,550.45. Work just commenced. Expenditure during 1931, \$2,847.50.

#### *Shrewsbury-Worcester*

Nov. 3, 1931, contract made with E. D. Ward Company, of Worcester, for constructing a steel stringer bridge at Grafton Street in Worcester, about 8,371 feet

of State highway on Massasoit Street in Worcester, and about 7,550 feet of State highway on the same road in Shrewsbury, the surface, except over the bridge in Worcester and about 2,500 feet of State highway in Shrewsbury, consisting of reinforced cement concrete, the surface over the bridge consisting of bituminous concrete, and the surface on about 2,500 feet of State highway in Shrewsbury consisting of bituminous macadam. The proposal amounted to \$380,999.10. Work just commenced. Expenditure during 1931, \$4,962.30.

#### *Gill-Erving*

Nov. 10, 1931, contract made with McClintic-Marshall Corporation, of Bethlehem, Pennsylvania, for constructing a steel bridge superstructure over the Connecticut River at the dividing line between the towns of Gill and Erving, the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$256,910.30. Work not yet commenced.

#### *Ipswich*

Nov. 10, 1931, contract made with R. G. Watkins & Son, Inc., of Amesbury, for reconstructing bridge approaches on about 977 feet of State highway, known as High Street, in Ipswich, the surface except over the railroad bridge consisting of bituminous macadam, and the surface over the railroad bridge consisting of bituminous concrete. The proposal amounted to \$10,394.15. Work not yet commenced.

#### *Williamstown*

Nov. 10, 1931, contract made with Ralph E. Bull, of Fitchburg, for constructing about 9,446 feet of State highway on the Petersburg Mountain Road, the surface consisting of bituminous macadam. The proposal amounted to \$72,682.98. Work just commenced. Expenditure during 1931, \$2,891.27.

#### *Uxbridge*

Nov. 24, 1931, contract made with the Waterbury Road Construction Company, Inc., of Hartford, Conn., for constructing a bridge and approaches on about 1,510 feet of State highway on the Millville Road, the surface consisting of bituminous macadam. The proposal amounted to \$41,811.50. Work not yet commenced.

#### *Lakeville-Middleborough*

Nov. 24, 1931, contract made with Arute Bros., Incorporated, of New Britain, Conn., for constructing about 3,602 feet of State highway on Bedford Street in Middleborough, and 17,800 feet of State highway on the same road in Lakeville, the surface consisting of sections of bituminous macadam between two sections of reinforced cement concrete, bituminous macadam, and bituminous concrete. The proposal amounted to \$243,468.10. Work not yet commenced.

#### *Swampscott-Salem*

Nov. 24, 1931, contract made with M. McDonough Co., of Saugus, for reconstructing about 7,383 feet of State highway on Loring Avenue in Salem, and about 5,612 feet of State highway on Paradise Road in Swampscott, the surface consisting of bituminous macadam. The proposal amounted to \$108,411.90. Work not yet commenced.

### EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various counties during the year were:—

Barnstable, \$307,500.95	Hampshire, \$125,856.05
Berkshire, \$79,180.43	Middlesex, \$736,924.24
Bristol, \$409,625.29	Norfolk, \$505,233.95
Essex, \$207,139.92	Plymouth, \$418,226.19
Franklin, \$619,725.49	Worcester, \$2,337,268.70
Hampden, \$261,276.52	Total, \$6,007,957.73



Details of the foregoing expenditures follow:—

*Barnstable County.* — Barnstable, \$246,088.86; Bourne, \$35,063.02; Sandwich, \$26,349.07.

*Berkshire County.* — Dalton, \$15,536.81; Lee, \$2,365.26; Sandisfield, \$7,950.98; Williamstown, \$140.74; Windsor, \$53,186.64.

*Bristol County.* — Attleboro, \$182,748.38; North Attleborough, \$170,723.13; Seekonk, \$56,153.78.

*Essex County.* — Amesbury, \$12,648.86; Merrimac, \$8,499.50; Newbury, \$49,541.88; North Andover, \$113,274.42; Rowley, \$23,175.26.

*Franklin County.* — Ashfield, \$171,582.85; Bernardston, \$32,231.93; Buckland, \$3,235.92; Charlemont, \$25,333.12; Conway, \$134,815.06; Deerfield, \$103,817.31; Greenfield, \$108,054.74; Orange, \$40,654.56.

*Hampden County.* — Chester, \$143,478.52; Monson, \$1,881.50; Palmer, \$115,916.50.

*Hampshire County.* — Cummington, \$2,239.11; Huntington, \$123,616.94.

*Middlesex County.* — North Reading, \$7,240.33; Reading, \$4,234.81; Tyngsborough, \$444,436.77; Waltham, \$24,863.43; Weston, \$256,148.90.

*Norfolk County.* — Avon, \$40,661.07; Foxborough, \$12,427.76; Milton, \$10,740.04; Plainville, \$248,554.36; Randolph, \$2,809.05; Wrentham, \$190,041.67.

*Plymouth County.* — Abington, \$7,555.85; Bridgewater, \$30,694.56; Brockton, \$81,108.11; Duxbury, \$122,315.24; Kingston, \$31,145.05; Mattapoisett, \$16,070.66; Middleborough, \$37,059.19; Pembroke, \$92,277.53.

*Worcester County.* — Athol, \$33,101.23; Dudley, \$91,206.03; Hopedale, \$56,444.76; Mendon, \$38,945.22; Milford, \$88,267.29; Northborough, \$170,788.81; Shrewsbury, \$588,420.72; Southborough, \$371,021.58; Southbridge, \$39,666.31; Westborough, \$859,406.75.

Expenditures under the provisions of Chapter 119, Acts of 1931:

Hingham, \$129,419.96

Hull, \$199,748.09

#### EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 122, ACTS OF 1931 For State Highway Construction

Framingham-Southborough	\$853,922.31	Framingham-Natick	\$36,143.19
Northborough-Shrewsbury	442,256.08	Millbury-Worcester	86,824.74
Foxborough-Sharon		Sharon-Walpole-Norwood	3,053.23
Walpole-Wrentham	217,932.56	Worcester-Shrewsbury	5,885.18
Auburn-Worcester	94,856.20	Williamstown	2,938.62
Gill-Greenfield	125,532.97	Lakeville-Middleborough	35.10
Erving-	144,021.08	Uxbridge	45,355.02
Gill-Erving	81,686.12		
Erving-Gill	2,458.51		
			<hr/>
			\$2,142,900.91

#### MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws). The expenditures during the year in various counties were:—

Barnstable, \$256,426.24  
Berkshire, \$1,090,395.49  
Bristol, \$763,297.21  
Dukes, \$65,844.73  
Essex, \$910,801.15  
Franklin, \$103,569.18  
Hampden, \$521,413.68  
Hampshire, \$117,416.78

Middlesex, \$1,085,571.74  
Nantucket, \$509.87  
Norfolk, \$304,926.09  
Plymouth, \$672,332.96  
Suffolk, \$20,804.94  
Worcester, \$986,660.68  
Total, \$6,899,970.74

Details of the foregoing expenditures follow:—

*Barnstable County.* — Barnstable, \$35,444.94; Bourne, \$112,773.96; Brewster, \$43,003.47; Chatham, \$3,038.73; Dennis, \$2,421.62; Eastham, \$3,668.23; Falmouth, \$18,271.81; Harwich, \$2,429.40; Mashpee, \$3,808.14; Orleans, \$4,030.56; Provincetown, \$2,705.29; Sandwich, \$12,181.11; Truro, \$3,994.34; Wellfleet, \$3,903.10; Yarmouth, \$4,751.54.

*Berkshire County.* — Adams, \$1,795.45; Becket, \$505,783.59; Cheshire, \$12,206.85; Clarksburg, \$4,710.09; Dalton, \$7,164.15; Egremont, \$37,959.43; Florida, \$7,829.32; Great Barrington, \$13,543.95; Hancock, \$6,405.45; Hinsdale, \$6,261.52; Lanesborough, \$6,218.03; Lee, \$97,883.35; Lenox, \$13,337.53; New Ashford, \$3,619.09; New Marlborough, \$321.38; North Adams, \$9,385.24; Otis, \$2,585.32; Pittsfield, \$17,937.60; Richmond, \$2,637.87; Sandisfield, \$5,134.80; Savoy, \$1,320.09; Sheffield, \$123,948.17; Stockbridge, \$9,847.65; Washington, \$4,641.43; West Stockbridge, \$277.85; Williamstown, \$15,593.78; Windsor, \$172,046.51.

*Bristol County.* — Acushnet, \$2,622.02; Attleborough, \$4,066.98; Berkley, \$1,213.26; Dartmouth, \$10,499.25; Dighton, \$19,806.37; Easton, \$14,701.00; Fairhaven, \$15,595.35; Fall River, \$71.64; Freetown, \$12,259.63; Mansfield, \$5,927.68; New Bedford, \$120,462.95; Norton, \$10,565.94; North Attleborough, \$44,876.07; Raynham, \$3,885.85; Rehoboth, \$53,394.29; Seekonk, \$88,239.03; Somerset, \$80,450.16; Swansea, \$239,069.70; Taunton, \$31,642.37; Westport, \$3,947.67.

*Dukes County.* — Chilmark, \$19,579.16; Edgartown, \$1,949.38; Gay Head, \$711.43; Oak Bluffs, \$455.12; Tisbury, \$1,080.72; West Tisbury, \$42,068.92.

*Essex County.* — Amesbury, \$58,346.28; Andover, \$139,285.79; Beverly, \$11,317.09; Danvers, \$20,102.18; Essex, \$5,162.09; Gloucester, \$10,211.64; Groveland, \$2,860.28; Hamilton, \$10,366.74; Haverhill, \$72,840.68; Ipswich, \$11,462.31; Lawrence, \$1,492.96; Lynn, \$12,204.46; Lynnfield, \$3,311.16; Merrimac, \$41,877.54; Methuen, \$7,876.38; Middleton, \$5,498.71; Newbury, \$95,879.95; Newburyport, \$2,805.63; North Andover, \$45,487.51; Peabody, \$7,950.37; Rockport, \$956.28; Rowley, \$202,883.55; Salem, \$10,221.22; Salisbury, \$72,439.47; Saugus, \$11,627.79; Swampscott, \$2,410.89; Topsfield, \$10,337.64; Wenham, \$26,927.68; West Newbury, \$6,656.88.

*Franklin County.* — Ashfield, \$1,816.84; Bernardston, \$4,813.26; Buckland, \$15,778.20; Charlemont, \$17,599.15; Colrain, \$987.80; Conway, \$1,483.71; Deerfield, \$9,801.25; Erving, \$8,530.63; Gill, \$913.66; Greenfield, \$9,456.63; Montague, \$4,642.33; Northfield, \$5,574.56; Orange, \$3,597.53; Shelburne, \$10,430.19; Sunderland, \$6,129.35; Whately, \$2,014.09.

*Hampden County.* — Agawam, \$16,212.22; Blandford, \$6,014.87; Brimfield, \$7,607.19; Chester, \$87,403.09; Chicopee, \$7,258.50; East Longmeadow, \$1,476.66; Holyoke, \$4,524.82; Monson, \$50,104.99; Palmer, \$166,654.50; Russell, \$9,260.37; Southwick, \$3,942.18; Tolland, \$343.49; Wales, \$2,428.08; Westfield, \$7,494.31; West Springfield, \$6,943.15; Wilbraham, \$143,745.26.

*Hampshire County.* — Amherst, \$7,005.64; Belchertown, \$3,262.61; Cummington, \$10,447.85; Easthampton, \$11,097.91; Goshen, \$4,259.35; Granby, \$5,015.55; Hadley, \$2,117.72; Hatfield, \$4,910.03; Huntington, \$25,348.96; Northampton, \$12,809.68; Southampton, \$2,770.12; South Hadley, \$13,560.48; Ware, \$8,770.49; Williamsburg, \$6,040.39.

*Middlesex County.* — Acton, \$11,356.10; Arlington, \$14,580.13; Ashby, \$14,231.76; Ashland, \$4,070.38; Ayer, \$3,462.56; Bedford, \$6,851.11; Billerica, \$50,146.74; Boxborough, \$5,891.17; Burlington, \$3,365.26; Chelmsford, \$3,305.71; Concord, \$9,003.11; Dracut, \$8,898.41; Framingham, \$9,789.43; Groton, \$55,039.91; Holliston, \$6,959.51; Hudson, \$1,313.30; Lexington, \$4,173.98; Lincoln, \$1,794.16; Littleton, \$10,765.10; Lowell, \$3,308.35; Malden, \$24.59; Marlborough, \$237,472.78; Medford, \$1,494.95; Melrose, \$10,293.33; Natick, \$2,240.35; Newton, \$480.39; North Reading, \$207,794.83; Pepperell, \$18,069.67; Reading, \$191,089.00; Shirley, \$3,651.28; Somerville, \$713.78; Stoneham, \$1,946.28; Sudbury, \$3,892.91; Tewksbury, \$3,026.60; Townsend, \$24,023.89; Tyngsborough, \$3,778.58; Waltham, \$735.80; Watertown, \$1,701.58; Wayland, \$2,744.65; Westford, \$7,104.37; Weston, \$121,268.91; Wilmington, \$2,020.93; Winchester, \$6,089.19; Woburn, \$5,606.92.

*Nantucket County.* — Nantucket, \$509.87.

*Norfolk County.* — Avon, \$79,680.95; Bellingham, \$9,187.80; Braintree, \$7,763.61; Canton, \$12,520.10; Cohasset, \$2,841.55; Dedham, \$32,501.13; Dover, \$3,534.41; Foxboro, \$12,009.48; Franklin, \$997.18; Holbrook, \$3,668.17; Milton, \$8,966.04; Needham, \$364.35; Norwood, \$4,231.91; Plainville, \$2,151.85; Quincy, \$13,022.43; Randolph, \$44,621.59; Sharon, \$345.89; Stoughton, \$8,239.79



Walpole, \$2,194.86; Wellesley, \$2,783.33; Westwood, \$1,224.96; Weymouth, \$38,981.83; Wrentham, \$12,275.05; Norfolk, \$817.83.

*Plymouth County.* — Abington, \$70,520.21; Bridgewater, \$55,523.24; Brockton, \$32,354.50; Duxbury, \$39,480.48; East Bridgewater, \$103,794.42; Hanover, \$12,213.17; Hingham, \$38,301.13; Kingston, \$1,172.08; Lakeville, \$8,018.66; Marion, \$5,791.13; Marshfield, \$7,022.22; Mattapoisett, \$4,078.47; Middleborough, \$16,113.51; Norwell, \$2,019.34; Pembroke, \$71,162.85; Plymouth, \$38,314.17; Rochester, \$1,580.86; Rockland, \$858.92; Scituate, \$5,700.34; Wareham, \$155,191.49; West Bridgewater, \$1,472.42; Whitman, \$1,649.35.

*Suffolk County.* — Boston, \$4,159.74; Chelsea, \$832.00; Revere, \$15,813.20.

*Worcester County.* — Ashburnham, \$7,563.88; Athol, \$2,459.77; Auburn, \$4,633.77; Barre, \$19,609.20; Blackstone, \$1,317.54; Brookfield, \$1,582.40; Charlton, \$8,256.57; Douglas, \$382.41; Dudley, \$1,582.33; East Brookfield, \$9,231.43; Fitchburg, \$4,086.70; Gardner, \$23,695.42; Grafton, \$7,818.34; Hardwick, \$597.58; Harvard, \$4,983.17; Holden, \$6,276.86; Hopedale, \$1,724.28; Lancaster, \$1,304.65; Leicester, \$13,671.65; Leominster, \$1,294.65; Lunenburg, \$13,488.64; Mendon, \$3,091.44; Milford, \$1,387.71; Millbury, \$1,639.98; Millville, \$2,165.76; New Braintree, \$369.98; North Brookfield, \$22,422.82; Northborough, \$343,972.33; Northbridge, \$11,309.68; Oakham, \$1,478.26; Oxford, \$5,056.33; Paxton, \$4,562.85; Petersham, \$4,997.40; Phillipston, \$1,529.88; Princeton, \$576.06; Rutland, \$11,170.54; Shrewsbury, \$217,491.99; Southborough, \$3,235.15; Southbridge, \$21,009.15; Spencer, \$1,560.57; Sterling, \$12,032.07; Sturbridge, \$113,323.44; Sutton, \$6,255.11; Templeton, \$22,016.28; Upton, \$3,768.11; Uxbridge, \$6,621.29; Warren, \$5,919.23; Webster, \$843.70; West Boylston, \$5,199.39; West Brookfield, \$2,149.62; Westminster, \$4,243.56; Westborough, \$3,115.14; Winchendon, \$2,993.80; Worcester, \$3,590.82.

Miscellaneous expenditures are as follows: —

9 snow plows . . . . .	\$12,396 02	
7 spreaders . . . . .	5,070 94	
Truck repairs . . . . .	17,137 29	
Truck operation . . . . .	5,534 33	
Truck plow repairs . . . . .	29,999 78	
Tractor repairs . . . . .	14,534 89	
Tractor operation . . . . .	6,759 14	
Tractor plow repairs . . . . .	17,206 95	
Snow fence . . . . .	1,727 24	
Expenditures under towns . . . . .	399,383 64	
		\$509,750 22
Warning signs . . . . .	\$40,775 19	
Direction signs . . . . .	76,644 34	
Control signals . . . . .	22,275 15	
Traffic survey . . . . .	23,343 22	
Traffic accidents . . . . .	649 95	
Traffic permits . . . . .	1,926 57	
		165,614 34
Somerset Bridge . . . . .	\$13,444 24	
Newburyport Bridge . . . . .	7,773 97	
Fairhaven-New Bedford Bridge . . . . .	22,762 93	
		43,981 14
Detour bulletins . . . . .		5,715 93
Tercentenary signs . . . . .		635 96
Total of miscellaneous expenditures . . . . .		\$725,697 59

#### REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The cooperation of the Department with officers of cities, towns and counties in keeping open and reasonably passable for vehicles during the winter months

such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,564 miles of highways on the principal routes of travel, 1,468 miles of which are State highways and 96 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$509,-750.22, which includes the cost of the maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand or use on icy conditions of the road surfaces.

UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth was placed in the Department of Public Works by chapter 357 of the Acts of 1928. The Department is thereby enabled to insure that all traffic control signals to be erected by the municipalities shall conform to standards adopted by the Department and cooperates with the cities and towns for the purpose of properly locating and operating such signals. All through ways desired by the municipalities must first be approved by the Department before such may become effective.

In order to secure uniformity in the matter of traffic control, the Department has issued three bulletins, two in previous years and the third bulletin during the current year. These bulletins are as follows: Bulletin No. 1, "Recommendations and Requirements relating to Through Ways"; Bulletin No. 2, "A Standard Code for Traffic Signal Installation and Operation"; Bulletin No. 3, "A Standard Code for Traffic Signs, Warning Beacons and Islands." These present the standards which are required to be met by the cities and towns of the State for the installation and maintenance of traffic signs, signals and devices for the control of traffic.

TRAFFIC CONTROL SIGNALS AND REGULATIONS APPROVED

During the year the Department has issued permits to cities and towns for the following traffic control features:

	In 1931	Previously	Total to Date
Traffic Signals, at intersections . . . . .	66	551	617
Traffic Beacons . . . . .	55	125	180
"Through Ways" . . . . .	14	87	101
Traffic Signs and Markings . . . . .	56	85	141
Traffic Rules and Regulations . . . . .	70	118	188

DIRECTION SIGNS, ROUTE MARKERS, WARNING SIGNS AND TRAFFIC CONTROL SIGNALS ERECTED BY DEPARTMENT

The Department has given a great deal of study to the determination of the important routes of travel for the purpose of marking and furnishing direction signs as aids for traveling. Ninety-five automobile routes have been selected, including practically every city, town and village in the Commonwealth, having a total mileage of 3,200 miles. Included in this designation are the so-called United States routes, the numbering of which conforms to the number approved by the United States Bureau of Public Roads. The other routes selected are numbered according to the State's designation.

The placing of route numbers and direction signs at points of advantage on these designated highways is done by the Department both on State highways and on city and town ways, permission for the latter being obtained from the local authorities. Warning signs and traffic control signals which are erected and maintained by the Department are placed only on State highways.



Many new warning signs, including plain signs, reflecting button signs, as well as electric flashing beacons and neon signs, have been erected and a new type of sign intended to direct traffic movement at the new grade separations along some of the recently constructed highways has been installed. This type of intersection is new to the travelling public so that many more signs were required to direct traffic at such locations as the Tyngsborough bridge and grade separations on the new Boston-Worcester Turnpike. There have also been designed and erected signs for designating important rivers and bodies of water on the main routes through the State. Flood lighting has been provided at several intersections to illuminate islands and planted areas.

The adoption of the route markers equipped with reflecting buttons has proven the greatest aid for night driving. A total of 14,433 such markers have been made to date for use on the highways.

The Department installed traffic control signals at twenty-two intersections during the year; eleven were installed in 1930 and one in 1929; making a total to date of thirty-four signals.

The Department has designated portions of two highways as "through ways," aggregating 26 miles, and also thirteen other stretches of highways aggregating 51.3 miles, at the request of cities and towns in which these ways are located.

The manufacture of many of these signs and the erection and maintenance of all of these signs and signals are part of the highway maintenance activities.

#### TRAFFIC ACCIDENT STUDIES

Studies have been continued to ascertain the attendant circumstances and physical characteristics at points on the highways where accidents have occurred, in order to measure the effectiveness of control or lack of control of traffic movements at such points. Such information included the type of district, layout of the roadway, means of traffic control, atmospheric conditions, light conditions, condition of roadway, physical obstructions in the roadway and obstructions to view. This information is required in reports submitted to the Registry of Motor Vehicles and is supplied to the traffic engineering section for study.

In connection with the study of such data a large wall map is used to locate by pins the points where accidents occur. The data obtained by the traffic count are also used in connection with the records of accidents on numbered automobile routes. It is believed that these studies will assist in determination of hazardous conditions so that the physical characteristics or traffic control measures, or both, will be altered to produce greater factors of safety at such points on the highways.

#### ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-six years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

The Department has organized and trained a group of men under competent supervision to have charge of this work, not only for the removal and trimming of trees, brush and undesirable growth, but also for the selection and planting of new growth suitable for the locations. The removal of trees and brush that may obstruct vision at curves, intersections or other points on the highways is done to insure that operating conditions shall be as safe as possible and unnecessary growth is cleared out in order to afford attractive vistas at many scenic locations. For the protection of the roadside trees the Department has maintained a corps of inspectors to supervise trimming that may be necessary for the construction of light and power transmission lines. In connection with this work there are three nurseries maintained in which the types of trees and shrubs suitable for use on the highways of Massachusetts are grown and made available for use by the Department.

During the year 2,547 trees were planted, making a total for the past twenty-seven years of 62,224 trees planted; and in this year 7,273 shrubs have been



planted throughout the State; in addition, 14,285 small pines have been planted on bare slopes and ragged cuts.

The Department made provisions in November for the employment during the coming winter of a large number of men in an endeavor to alleviate the unemployment situation. It is expected that 1,000 to 1,800 men will thus be given at least part time employment. These men are to be employed on maintenance activities of the Department as they relate to the roadside care and improvement, such as trimming out undesirable growth and removing trees of little value, with the aim of improving visibility at hazardous locations, opening up vistas for the greater enjoyment of the scenic features of the highways, and of advancing greatly the usual activities of the Department in this kind of work.

During the past year the Department has acquired a farm of approximately 90 acres in the town of Sudbury where it is proposed to establish an up-to-date nursery for the growing of trees and shrubs for highway beautification purposes.

Many of the trees used at present have been grown in the nursery conducted on land at Palmer owned by the Department of Conservation.

The buildings on the new property are being remodeled to fit the needs of the nursery and all trees and shrubs now located in Palmer will be transplanted during the coming year.

#### STATE HIGHWAY LIGHTING

The Department was authorized and directed to provide lighting of a section of the Boston-Salem Turnpike in the cities of Lynn and Revere and the town of Saugus, by Chapter 447, Acts of 1931, which is as follows:

"The department of public works is hereby authorized and directed to install and maintain a system of street lighting on that section of the state highway known as the Boston-Salem turnpike lying between Ward street in the city of Revere and the northerly terminus of Fox Hill bridge in the city of Lynn, and may make such contracts therefor as may be necessary. The installation and maintenance of such lighting system shall serve as a demonstration in respect to the expediency of installing and maintaining similar systems on other state highways. All expense incurred hereunder in the current fiscal year shall be paid by the commonwealth from item number six hundred and twelve of chapter two hundred and forty-five of the acts of the current year, and in subsequent years one half shall be paid by the commonwealth from the annual appropriation for the maintenance and repair of state highways, and one half shall be paid by the cities of Revere and Lynn and the town of Saugus in equal amounts."

In accordance therewith a contract was awarded for the installation of lighting fixtures along the Boston and Salem Turnpike in the cities and town mentioned above. This provided for 400-watt lighting units to be erected 250 feet apart on alternate sides of the highway.

#### SIDEWALK CONSTRUCTION ON STATE HIGHWAYS

Authority for the construction of sidewalks along State highways was granted by Chapter 439, Acts of 1931, which amended section 20, Chapter 81, General Laws, as follows:

"Chapter eighty-one of the General Laws, as amended in section twenty by section twenty-nine of chapter three hundred and ninety-four of the acts of the current year, is hereby further amended by striking out said section twenty and inserting in place thereof the following: Section 20. The department shall from time to time construct sidewalks along such parts of the state highways as it determines public convenience and necessity require. Sidewalks may also be constructed along state highways and maintained in accordance with sections twenty-five and twenty-six of chapter eighty-three."

In accordance therewith the construction was started on sidewalks on the State highway in the towns of Somerset and Swansea.

#### TERCENTENARY SIGNS

Under the provisions of Chapter 10 of the Resolves of 1930, the Department was authorized to prepare and erect signs and suitable markers, including such as may be selected by the Massachusetts Bay Colony Tercentenary Commission,



with suitable inscriptions, indicating the ancient ways of the Puritan times and the structures or places relating to or associated with the early settlements within the Commonwealth. These signs and markers, after being erected, are required to be maintained by the Department from appropriations made for the maintenance of highways.

The locations of these signs and markers were selected jointly by the local authorities of the cities and towns and the Tercentenary Commission with due consideration as to visibility, proper height and position. A total of 273 tercentenary signs were erected. During the year 200 of these signs were refinished and replaced.

#### REGULATION OF TRAFFIC ON HIGHWAYS DURING THE WINTER 1930-31

As provided in section 30, chapter 85, General Laws, as amended, the Department on Jan. 27, 1931, adopted regulations, and gave public notice thereof, providing that no person shall drive, operate or move any vehicle or object which with its load weighs more than ten thousand pounds over certain State highways without a permit therefor during the season. These regulations were in effect in the following counties during the periods stated:—

Barnstable County,	Feb. 16 to Apr. 1, 1931.
Berkshire County,	Feb. 16 to Apr. 18, 1931.
Bristol County,	Feb. 16 to Apr. 18, 1931.
Franklin County,	Feb. 16 to Apr. 18, 1931.
Hampden County,	Feb. 16 to Apr. 18, 1931.
Hampshire County,	Feb. 16 to Apr. 18, 1931.
Norfolk County,	Feb. 16 to Apr. 18, 1931.
Plymouth County,	Feb. 23 to Apr. 11, 1931.
Essex County,	Mar. 2 to Apr. 18, 1931.
Middlesex County,	Mar. 2 to Apr. 18, 1931.
Worcester County,	Mar. 2 to Apr. 18, 1931.

#### FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act approved Nov. 9, 1921, may be found in the annual reports of this Department for the years 1920-1930, inclusive.

The following Federal aid allotments have thus far been made to Massachusetts:

For fiscal year ending June 30, 1917 . . . . .	\$73,850 94
For fiscal year ending June 30, 1918 . . . . .	147,701 90
For fiscal year ending June 30, 1919 . . . . .	958,145 15
For fiscal year ending June 30, 1920 . . . . .	1,400,078 27
For fiscal year ending June 30, 1921 . . . . .	1,472,788 83
For fiscal year ending June 30, 1922 . . . . .	1,096,176 04
For fiscal year ending June 30, 1923 . . . . .	730,784 03
For fiscal year ending June 30, 1924 . . . . .	950,448 62
For fiscal year ending June 30, 1925 . . . . .	1,089,806 22
For fiscal year ending June 30, 1926 . . . . .	1,099,891 00
For fiscal year ending June 30, 1927 . . . . .	1,089,055 00
For fiscal year ending June 30, 1928 . . . . .	1,089,100 00
For fiscal year ending June 30, 1929 . . . . .	1,088,808 00
For fiscal year ending June 30, 1930 . . . . .	1,090,077 00
For fiscal year ending June 30, 1931 . . . . .	1,821,569 00
For fiscal year ending June 30, 1932 . . . . .	1,813,916 00
For fiscal year ending June 30, 1933 . . . . .	1,511,244 00
Total . . . . .	\$18,523,440 00

Federal "Emergency Advance Funds" allotment was made to Massachusetts in addition to the above amounting to \$1,141,460.00.

The total amount received by Massachusetts from 1916 to Nov. 30, 1931, is \$14,847,422.72.\*

\* Includes \$1,141,460.00 Federal Emergency Advance Funds.

Projects to the number of 36 have been prepared in addition to those shown in the report of the Department of Public Works for 1929. The total mileage included in the various Federal aid road projects in this state, from the commencement of work of this character to November 30, 1931, inclusive, is 887,275. The mileage in various counties is: —

Barnstable, 84.318 miles	Hampden, 50.502 miles
Berkshire, 115.342 miles	Hampshire, 43.021 miles
Bristol, 78.560 miles	Middlesex, 79.401 miles
Dukes, 3.117 miles	Norfolk, 71.937 miles
Essex, 71.782 miles	Plymouth, 96.579 miles
Franklin, 42.498 miles	Worcester, 150.218 miles

STATEMENT OF FEDERAL AID ROAD PROJECTS\* to Nov. 30, 1930

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
1	Acushnet-Fairhaven	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover	2.708	19,480 36	19,480 36	Work completed.
R2	Hanover	2.615	39,225 00	39,225 00	Work completed.
3	Malden-Melrose-Saugus	1.162	11,620 00	11,620 00	Work completed.
4	Danvers	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich	1.818	10,678 02	10,678 02	Work completed.
7	Cummington	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham	7.016	90,074 51	90,074 51	Work completed.
9	Saugus	3.122	65,472 27	65,472 27	Work completed.
10	Braintree	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich	2.173	21,851 50	21,851 50	Work completed.
13	Littleton-Groton	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg	2.797	55,940 00	55,940 00	Work completed.
19	Taunton	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock	3.637	72,483 32	72,483 32	Work completed.
22	Greenfield-Bernardston	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk	2.756	19,527 75	19,527 75	Work completed.
R24	Seekonk	2.756	41,340 00	41,340 00	Work completed.
25	Billerica	0.578	38,389 77	38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1	5.134	102,680 00	102,680 00	Work completed.
	Section 2	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham	1.766	20,207 27	20,207 27	Work completed.
28	Lanesborough:				
	Section A	0.990	19,780 00	19,780 00	Work completed.
	Section B	2.690	53,800 00	53,800 00	Work completed.
29	Ware	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield	4.206	84,120 00	84,120 00	Work completed.
31	Danvers-Peabody	1.107	22,140 00	22,140 00	Work completed.
32	Huntington	3.078	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A	2.182	43,640 00	43,640 00	Work completed.
	Section B	1.624	25,847 25	25,847 25	Work completed.
34	Dudley	1.359	27,180 00	27,180 00	Work completed.
35	Haverhill-Methuen	4.544	90,880 00	90,880 00	Work completed.
36	Eastham-Wellfleet-Provincetown:				
	Section A	10.690	91,347 85	91,347 85	Work completed.
	Section B	6.548	75,935 60	75,935 60	Work completed.
	Section C	8.043	86,130 51	86,130 51	Work completed.
37	Egremont	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford-Lanes-				
	borough:				
	Section A	0.020	9,123 64	9,123 64	Work completed.
	Section B	3.323	65,980 00	65,980 00	Work completed.
	Section C	4.590	68,850 00	68,850 00	Work completed.
40	East Brookfield	1.011	20,220 00	20,220 00	Work completed.
41	Ashby	1.250	22,141 03	22,141 03	Work completed.
42	Washington	2.291	45,820 00	45,820 00	Work completed.
43	Leicester	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A	1.494	29,880 00	29,880 00	Work completed.
	Section B	1.479	50,183 37	50,183 37	Work completed.
	Section C	3.780	82,915 42	82,915 42	Work completed.
	Section D	3.022	56,801 10	23,765 54	Work completed.
45	Palmer:				
	Sections A and C	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A	1.672	33,440 00	33,440 00	Work completed.

\* All of these projects are now, or will be later, State highways.



STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
47	Barre-Oakham . . . . .	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg . . . . .	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A . . . . .	1.959	39,180 00	39,180 00	Work completed.
	Section B . . . . .	2.504	50,080 00	50,080 00	Work completed.
52	Oxford . . . . .	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West Brook-				
	field:				
	Section A . . . . .	0.890	17,800 00	17,800 00	Work completed.
	Section B . . . . .	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A . . . . .	0.829	16,580 00	16,580 00	Work completed.
	Section B . . . . .	2.691	53,820 00	53,820 00	Work completed.
55	Quincy . . . . .	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton . . . . .	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn . . . . .	3.042	59,131 31	59,131 31	Work completed.
58	Littleton . . . . .	1.345	26,900 00	26,900 00	Work completed.
59	Egremont . . . . .	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers . . . . .	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton . . . . .	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A . . . . .	3.009	60,180 00	60,180 00	Work completed.
	Section B . . . . .	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich . . . . .	4.489	89,780 00	89,780 00	Work completed.
64	Norwood . . . . .	1.065	21,300 00	21,300 00	Work completed.
65	North Adams . . . . .	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill . . . . .	2.657	53,049 24	53,049 24	Work completed.
70	Palmer . . . . .	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham . . . . .	1.846	36,940 00	36,940 00	Work completed.
72	Walpole . . . . .	3.078	61,560 00	61,560 00	Work completed.
73	Southwick . . . . .	6.879	111,757 95	111,757 95	Work completed.
74	Becket . . . . .	0.156	13,095 66	13,095 66	Work completed.
R74	Becket . . . . .	0.189	10,290 54	10,290 54	Work completed.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A . . . . .	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk . . . . .	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac . . . . .	1.020	20,397 73	20,397 73	Work completed.
78	Burlington . . . . .	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington . . . . .	2.991	59,820 00	59,820 00	Work completed.
79B	Great Barrington . . . . .	0.028	8,522 99	8,522 99	Work completed.
80	Lee:				
	Section A . . . . .	0.909	18,180 00	18,180 00	Work completed.
	Section B . . . . .	0.283	4,245 00	4,245 00	Work completed.
83	Pembroke . . . . .	2.121	31,815 00	31,815 00	Work completed.
84	Sterling-West Boylston . . . . .	3.491	51,974 04	51,974 04	Work completed.
85	Dalton-(Hinsdale Road):				
	Section A . . . . .	1.033	20,660 00	20,660 00	Work completed.
	Section B . . . . .	0.066	7,120 50	7,120 50	Work completed.
86	Gay Head . . . . .	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A . . . . .	1.056	21,120 00	21,120 00	Work completed.
	Section B . . . . .	0.038	5,429 50	5,429 50	Work completed.
88	Erving . . . . .	4.537	67,485 00	67,485 00	Work completed.
89	Easton:				
	Sections A and B . . . . .	3.540	70,800 00	70,800 00	Work completed.
	Section C . . . . .	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-E. Brookfield . . . . .	1.227	25,324 95	25,324 95	Work completed.
91	Lowell . . . . .	0.977	19,537 87	19,537 87	Work completed.
93	Wilbraham . . . . .	0.208	67,506 06	67,506 06	Work completed.
94	Otis-Sandisfield . . . . .	7.565	122,931 25	122,931 25	Work completed.
95	Westfield . . . . .	0.148	12,677 08	12,677 08	Work completed.
96	Rochester-Wareham . . . . .	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield . . . . .	3.052	61,133 85	61,133 85	Work completed.
99	Gloucester . . . . .	1.191	19,353 75	19,353 75	Work completed.
100	Rutland . . . . .	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale . . . . .	0.297	4,455 00	4,455 00	Work completed.
101B	Hinsdale . . . . .	0.858	24,116 51	24,116 51	Work completed.
102A	Plainville-Wrentham . . . . .	3.254	48,810 00	48,810 00	Work completed.
103	Adams . . . . .	0.568	9,230 00	9,230 00	Work completed.
104	Milton . . . . .	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth . . . . .	1.438	28,760 00	28,760 00	Work completed.
106	Bourne . . . . .	0.522	35,002 00	35,002 00	Work completed.
107	Southampton . . . . .	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown . . . . .	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield . . . . .	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater . . . . .	0.109	24,580 87	24,580 87	Work completed.
111	Braintree . . . . .	0.371	7,200 00	7,200 00	Work completed.
112	No. Attleborough-Attleboro . . . . .	3.278	65,560 00	65,560 00	Work completed.
113	Swansea . . . . .	0.692	11,245 00	11,245 00	Work completed.
113B	Swansea-Somerset . . . . .	3.503	64,439 74	64,439 74	Work completed.
114	Lenox . . . . .	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth . . . . .	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole . . . . .	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford . . . . .	1.377	27,540 00	27,540 00	Work completed.
117B	Chelmsford-Tyngsborough . . . . .	4.625	89,713 81	89,713 81	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
118A	Brookfield	0.620	12,400 00	12,400 00	Work completed.
118B	Brookfield	0.251	3,765 00	3,765 00	Work completed.
119A	Essex	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville	4.789	71,835 00	71,835 00	Work completed.
120B	Berkeley	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkeley	2.758	41,370 00	41,370 00	Work completed.
120D	Taunton	0.862	12,930 00	12,930 00	Work completed.
121A	Abington	0.947	17,887 34	17,887 34	Work completed.
121B	Bridgewater	0.113	16,568 31	16,568 31	Work completed.
121C	Weymouth	2.720	40,800 00	40,800 00	Work completed.
121D	E. Bridgewater-Whitman	2.000	30,000 00	30,000 00	Work completed.
121E	Abington	1.088	14,770 42	14,770 42	Work completed.
122A	Barnstable	0.066	18,711 51	18,711 51	Work completed.
122B	Barnstable-Mashpee	2.482	36,349 09	36,349 09	Work completed.
122C	Falmouth-Mashpee	8.137	114,307 02	114,307 02	Work completed.
122D	Barnstable	5.643	44,860 06	34,744 16	Work underway.
122E	Barnstable	1.621	26,313 81		Work underway.
123A	Southampton	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland	0.189	30,296 68	30,296 68	Work completed.
124B	Marlborough	1.626	\$24,390 00	\$24,390 00	Work completed.
124C	Weston	1.004	15,060 00	14,742 80	Work underway.
125A	Wareham	3.086	68,316 11	68,316 11	Work completed.
125B	Wareham	2.761	41,415 00	41,415 00	Work completed.
127A	Holyoke	4.136	62,040 00	62,040 00	Work completed.
127B	Easthampton-Northampton	1.762	74,258 69	74,258 69	Work completed.
128A	Hinsdale	0.066	8,598 63	8,598 63	Work completed.
128B	Hinsdale	0.952	14,280 00	14,280 00	Work completed.
129A	Dighton-Somerset	3.465	51,975 00	51,975 00	Work completed.
129B	Somerset	4.340	65,511 29	65,511 29	Work completed.
130A	Auburn-Oxford	4.208	63,120 00	63,120 00	Work completed.
131A	Wilbraham	0.530	7,950 00	7,950 00	Work completed.
131B	Wilbraham	1.012	15,180 00	15,180 00	Work completed.
132A	Duxbury-Kingston	2.123	31,845 00	31,845 00	Work completed.
133A	North Andover	0.615	9,225 00	9,225 00	Work completed.
133B	North Andover	0.771	11,565 00	11,565 00	Work completed.
133C	North Andover	2.670	35,085 00		Work underway.
134A	Barre	1.217	18,255 00	18,255 00	Work completed.
134B	Barre	1.261	18,915 00	18,915 00	Work completed.
134C	Barre	1.617	24,255 00	24,255 00	Work completed.
135A	Russell	0.557	13,919 60	13,919 60	Work completed.
135B	Westfield-Russell	3.607	54,075 00	54,075 00	Work completed.
135C	Russell	3.291	53,059 55	53,059 55	Work completed.
135D	Russell-Huntington	3.670	55,050 00	55,050 00	Work completed.
136A	Agawam	1.331	19,965 00	19,965 00	Work completed.
136B	Agawam	1.515	22,725 00	22,725 00	Work completed.
136C	Agawam	1.000	15,000 00	15,000 00	Work completed.
137A	Sheffield	0.170	22,710 05	22,710 05	Work completed.
137C	Sheffield	1.532	22,980 00	7,189 98	Work completed.
138A	Chester	0.097	10,818 36	10,818 36	Work completed.
138B	Chester	4.250	92,391 53	92,391 53	Work completed.
138C	Becket	2.742	76,054 36	48,867 91	Work underway.
139A	Brimfield	0.103	6,075 05	6,075 05	Work completed.
139B	Brimfield	4.778	68,916 18	68,916 18	Work completed.
140A	Lenox-Lee	3.519	52,785 00	52,785 00	Work completed.
140B	Lee	0.057	26,620 13	26,620 13	Work completed.
141A	Williamsburg	0.211	8,880 65	8,880 65	Work completed.
141B	Goshen-Williamsburg	5.042	93,547 40	93,547 40	Work completed.
141C	Northampton-Williamsburg	4.146	62,190 00	62,190 00	Work completed.
142A	Fitchburg-Westminster	3.960	69,171 34	69,171 34	Work completed.
142B	Gardner-Westminster	3.699	52,316 73	52,316 73	Work completed.
142C	Gardner-Templeton	4.174	62,610 00	62,610 00	Work completed.
143	Fairhaven-Mattapoisett	3.245	52,079 86	52,079 86	Work completed.
144A	Canton-Stoughton	4.306	64,436 20	64,436 20	Work completed.
145A	Ashland-Holliston	3.330	34,645 01	34,645 01	Work completed.
146A	Paxton	1.783	26,745 00	26,745 00	Work completed.
146B	Paxton-Worcester	4.930	73,950 00	73,950 00	Work completed.
147A	Lenox-Pittsfield	2.349	35,235 00	35,235 00	Work completed.
148A	Raynham	1.657	24,855 00	24,855 00	Work completed.
148 B	Raynham-Taunton	2.861	42,915 00	42,915 00	Work completed.
149A	Middleborough	5.586	83,790 00	83,790 00	Work completed.
149B	Middleborough	0.831	12,465 00	12,465 00	Work completed.
150A	Littleton-Westford	1.985	29,775 00	29,775 00	Work completed.
150B	Westford	2.660	39,900 00	39,900 00	Work completed.
151A & B	Swansea-Somerset	0.464	89,138 06	89,138 06	Work completed.
152A	Dartmouth	1.401	21,015 00	21,015 00	Work completed.
152B	Dartmouth	2.858	42,870 00	42,870 00	Work completed.
152C	Westport	4.634	69,510 00	69,510 00	Work completed.
153A	Southampton-Easthampton	1.410	21,150 00	21,150 00	Work completed.
154A	Sturbridge	2.503	37,545 00	37,545 00	Work completed.
155A	West Springfield	0.549	8,235 00	8,235 00	Work completed.
156A	Orange	1.058	15,870 00	15,870 00	Work completed.
156B	Orange	2.607	39,105 00	39,105 00	Work completed.
156C	Athol-Orange	1.544	28,415 77	6,218 41	Work underway.
157A	Sandisfield-Tolland	0.644	34,803 50	34,803 50	Work completed.
R157A	Sandisfield-Tolland	0.644	5,107 62	5,107 62	Work completed.



STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
157B	Sandisfield	0.473	32,037 28	32,037 28	Work completed.
157C	Sandisfield-Tolland	3.038	45,570 00	45,570 00	Work completed.
157D	Sandisfield	0.219	13,641 74	13,641 74	Work completed.
158A	Dalton	0.430	22,087 67	22,087 67	Work completed.
159A	Seekonk-Rehoboth-Swansea	1.899	49,876 52	49,876 52	Work completed.
159B	Seekonk	2.251	33,765 00	33,765 00	Work completed.
159C	Swansea	2.767	41,505 00	41,505 00	Work completed.
160A	Lenox-Lee-Stockbridge	5.453	81,795 00	81,795 00	Work completed.
161A	Brockton-W. Bridgewater	3.823	57,345 00	57,345 00	Work completed.
161B	Avon-Brockton	2.201	33,015 00	23,604 74	Work completed.
162A	Holliston	3.315	49,725 00	49,725 00	Work completed.
162B	Milford	1.790	26,850 00	26,850 00	Work completed.
163A	Amherst	0.052	3,787 09	3,787 09	Work completed.
163B	Amherst	2.100	31,500 00	31,500 00	Work completed.
164A	Westminster-Winchendon	0.750	42,931 27	42,931 27	Work completed.
164B	Westminster-Ashburnham	3.607	54,105 00	54,105 00	Work completed.
164C	Ashburnham	3.776	56,640 00	56,640 00	Work completed.
164D	Winchendon	2.826	42,390 00	42,390 00	Work completed.
165A	Winchendon	2.460	36,900 00	36,900 00	Work completed.
166	Becket-Otis	6.043	99,077 00	99,077 00	Work completed.
168A	Deerfield	3.043	45,645 00	45,645 00	Work completed.
169A	Merrimac-Amesbury	3.397	50,955 00	50,955 00	Work completed.
171A	Chelmsford	1.536	23,040 00	23,040 00	Work completed.
172A	Leominster-Sterling	2.718	40,770 00	40,770 00	Work completed.
173A	Cheshire	4.377	74,965 81	74,965 81	Work completed.
173B	Lanesboro	1.742	26,130 00	26,130 00	Work completed.
174A	Marshfield	4.533	67,995 00	67,995 00	Work completed.
175A	Sandwich	0.217	22,181 26	22,181 26	Work completed.
175B	Orleans	1.904	23,601 55	23,601 55	Work completed.
175C	Barnstable	0.927	13,905 00	13,905 00	Work completed.
175D	Sandwich	2.364	35,460 00	35,460 00	Work completed.
175E	Brewster-Orleans	7.858	106,314 45	106,314 45	Work completed.
176A	Plymouth	5.032	70,543 35	70,543 35	Work completed.
176B	Plymouth-Bourne	2.948	44,220 00	24,990 90	Work completed.
177A	Chatham	3.964	48,588 18	48,588 18	Work completed.
177B	Orleans	1.802	25,838 02	25,838 02	Work completed.
177C	Dennis	3.219	38,734 30	38,734 30	Work completed.
178A	Chelmsford	1.262	18,930 00	18,930 00	Work completed.
179A	Falmouth	3.394	50,910 00	50,910 00	Work completed.
180A	Franklin-Wrentham	3.125	46,875 00	46,875 00	Work completed.
180B	Bellingham-Franklin	3.889	58,335 00	58,335 00	Work completed.
181A	Florida-North Adams	2.818	42,270 00	42,270 00	Work completed.
181B	Florida	2.736	41,040 00	41,040 00	Work completed.
181C	North Adams-Clarksburg	3.362	50,430 00	50,430 00	Work completed.
181D	Florida-Savoy	3.702	55,530 00	55,530 00	Work completed.
182A	Lunenburg	1.312	19,680 00	19,680 00	Work completed.
183A	Amesbury-Salisbury	1.922	28,830 00	28,830 00	Work completed.
183B	Amesbury	1.329	45,345 32	45,345 32	Work completed.
184A	Charlton	2.848	42,720 00	42,720 00	Work completed.
184B	Charlton-Sturbridge	5.623	84,345 00	84,345 00	Work completed.
185A	Buckland	1.245	18,675 00	18,675 00	Work completed.
185B	Charlemont	2.433	35,640 00	35,640 00	Work completed.
185C	Charlemont	0.421	54,688 84	14,907 70	Work completed.
186	Salisbury	2.405	36,075 00	36,075 00	Work completed.
187A	Bellingham	1.225	18,375 00	18,375 00	Work completed.
187B	Hopedale-Mendon-Bellingham	2.502	34,650 00		Work underway.
188A	Townsend	3.813	57,195 00	57,195 00	Work completed.
188B	Pepperell-Groton	3.368	50,520 00	50,520 00	Work completed.
188C	Groton-Pepperell	1.627	54,509 15	9,516 49	Work underway.
188D	Townsend	0.061	17,849 72		Work underway.
188E	Townsend	0.009	2,400 58		Work underway.
189A	Marion-Wareham	0.582	78,792 57	78,792 57	Work completed.
189B	Mattapoisett	1.804	27,060 00	27,060 00	Work completed.
189C	Marion	4.554	68,310 00	68,310 00	Work completed.
189D	Wareham	1.344	20,160 00	13,966 14	Work underway.
190A	Becket	2.254	33,810 00	33,810 00	Work completed.
190B	Hinsdale	0.307	45,608 50		Work underway.
191A	Falmouth	5.896	81,094 43	81,094 43	Work completed.
191B	Falmouth	1.752	26,280 00	26,280 00	Work completed.
192A	Groveland	1.643	24,645 00	24,645 00	Work completed.
192B	Newburyport	1.745	26,175 00	26,175 00	Work completed.
193A	Hadley	1.985	25,821 78	25,821 78	Work completed.
193B	Hadley	2.662	26,852 35	26,852 35	Work completed.
194A	Athol-Phillipston-Templeton	4.738	71,070 00	71,070 00	Work completed.
195A	Mansfield-Norton	0.960	17,862 40	17,862 40	Work completed.
195B	Mansfield-Norton	2.617	39,255 00	39,255 00	Work completed.
195C	Foxborough-Wrentham	0.927	23,175 00		Work underway.
196A	Millbury-Grafton	4.440	66,600 00	66,600 00	Work completed.
197	Plymouth	6.543	96,288 19	96,288 19	Work completed.
198A	Milford-Hopedale-Upton	4.418	66,270 00	66,270 00	Work completed.
199A	Newbury	0.303	163,208 90	121,066 85	Work completed.
199B	Newbury-Rowley	4.437	122,566 46	62,185 37	Work underway.
200A	Rehoboth	1.875	28,125 00	28,125 00	Work completed.
200B	Taunton-Dighton-Rehoboth	5.690	86,868 07	86,868 07	Work completed.
201	Wilbraham	1.530	22,950 00	22,950 00	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
202A	Hanover-Pembroke . . . . .	2.061	44,462 11	44,462 11	Work completed.
202B	Duxbury-Kingston-Pembroke . . . . .	6.164	92,460 00		Work underway.
203	Natick-Wellesley . . . . .	2.066	30,990 00	30,990 00	Work completed.
204	Erving . . . . .	3.214	48,210 00	48,210 00	Work completed.
205	Dalton . . . . .	0.913	22,152 43	22,152 43	Work completed.
206A	Billerica . . . . .	1.898	35,399 86	35,399 86	Work completed.
206B	Billerica . . . . .	0.978	14,670 00		Work underway.
207A	Bridgewater-Middleborough . . . . .	10.474	179,296 63		Work completed.
208A	Weston . . . . .	0.186	42,652 01	19,385 85	Work completed.
208B	Weston . . . . .	1.224	18,360 00	16,655 12	Work underway.
209A	Milton-Quincy-Randolph . . . . .	3.315	49,725 00		Work completed.
210A	Becket-Lee . . . . .	7.192	107,880 00	87,320 68	Work underway.
210B	Becket . . . . .	2.886	43,290 00	29,534 36	Work underway.
211A	Northborough-Shrewsbury-South- borough . . . . .	11.272	444,715 17	241,627 87	Work underway.
211B	Framingham-Southborough . . . . .	4.398	82,947 44		Work underway.
211C	Framingham-Natick . . . . .	4.061	101,525 00		Work underway.
212	North Attleborough . . . . .	2.123	46,890 51	39,408 28	Work completed.
213	Attleboro . . . . .	1.455	71,421 53	52,496 12	Work completed.
214A	Tyngsborough . . . . .	0.540	236,907 35	120,091 29	Work underway.
215A	Palmer-Monson . . . . .	0.606	98,900 75	22,365 10	Work underway.
216A	Dedham . . . . .	0.738	10,935 00		Work completed.
217	Chester-Huntington . . . . .	3.781	62,276 87	42,535 19	Work underway.
218	Canton-Dedham-Westwood . . . . .	3.947	202,012 06		Work underway.
219A	Marlborough-Northborough . . . . .	5.109	87,411 93	82,268 29	Work underway.
220A	Foxborough-Plainville-Wrentham . . . . .	5.722	85,830 00	67,133 86	Work underway.
221	Egremont . . . . .	2.135	53,375 00		Work underway.
222	Deerfield-Greenfield . . . . .	0.337	168,855 58	19,823 50	Work underway.
223A	Williamstown . . . . .	1.789	44,725 00		PS&E Appr.
224A	Andover-North-Reading-Reading . . . . .	4.431	125,109 01	56,711 93	Work underway.
225A	Erving . . . . .	1.425	89,590 80	23,837 41	Work underway.
225B	Gill-Greenfield . . . . .	5.147	162,429 00		Work underway.
225C	Erving-Gill . . . . .	0.017	236,449 23		Work underway.
226A	Auburn-Worcester . . . . .	4.809	143,134 13		Work underway.
226B	Millbury-Worcester . . . . .	2.125	219,350 35		Work underway.
226C	Shrewsbury-Worcester . . . . .	3.015	89,151 11		Work underway.
227	Foxborough-Sharon-Wrentham . . . . .	4.314	178,951 92		Work underway.
228A	Uxbridge . . . . .	4.171	128,280 31		Work underway.
229A	Dedham-Westwood-Needham . . . . .	3.448	100,412 55		Work underway.
229B	Needham-Wellesley . . . . .	3.653	110,698 82		Bids received.
230A	Salisbury . . . . .	2.184	43,990 79		Work underway.
231A	Sharon-Walpole-Norwood . . . . .	5.458	143,527 10		Work underway.
233A	Lakeville-Middleborough . . . . .	4.119	128,554 30		PS&E Appr.
Total . . . . .		887.275	\$17,547,315 38	\$13,705,962 72	

## STATEMENT OF FEDERAL EMERGENCY ADVANCE FUNDS

No.	TOWN OR CITY	Amount of Fed- eral Aid involved	Amount received
122D	Barnstable . . . . .	\$116,571 15	\$116,571 15
124C	Weston . . . . .	132,685 22	132,685 22
188C	Groton-Pepperell . . . . .	9,516 49	9,516 49
199B	Newbury-Rowley . . . . .	62,185 37	62,185 37
208B	Weston . . . . .	78,216 94	78,216 94
219A	Marlborough-Northborough . . . . .	329,743 37	329,743 37
220A	Foxborough-Plainville-Wrentham . . . . .	286,202 25	286,202 25
224A	Andover-North Reading-Reading . . . . .	90,544 85	90,544 85
225A	Erving . . . . .	35,794 36	35,794 36
Total . . . . .		\$1,141,460 00	\$1,141,460 00

## BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

## BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR

*Cities and Towns, Locality and Character of Structure*

Andover — Bypass over Main Street; two 33-foot spans, steel beam with reinforced concrete slab.

Auburn — Southwest Connection over tracks of the New York, New Haven and Hartford Railroad; two 45-foot spans and one 54-foot span, steel beam with reinforced concrete floor.



- Auburn — Southwest Connection over Reservoir; one 13-foot span, reinforced concrete slab.
- Bernardston — Northfield Road over tracks of the Boston and Maine Railroad; three 40-foot spans, reinforced concrete beam and slab.
- Blandford — Blotz Bridge, Otis Road over Tiffany Brook; one 21-foot span, reinforced concrete beam and slab.
- Boston — Canterbury Street under Morton Street; one 88-foot span, three-hinged steel arch with reinforced concrete floor.
- Boston — Canterbury Street over Stony Brook; one 14-foot span, reinforced concrete box culvert.
- Boston — West Roxbury Parkway under tracks of New York, New Haven and Hartford Railroad; two 45-foot spans, through plate girder.
- Bourne — over Back River; 56-foot span, steel beam with reinforced concrete floor.
- Canton — Green Lodge Street at Dedham and Westwood lines, over Neponset River; 56-foot span, reinforced concrete arch.
- Cheshire — Prout Bridge over Scrabble Brook; one 26-foot span, reinforced concrete beam and slab.
- Chester — Jacob's Ladder over Gold Mine Brook; 26-foot span, reinforced concrete beam and slab.
- Chesterfield — Munson Bridge, Williamsburg Road over The Branch; two 41-foot spans, steel beam and reinforced concrete floor.
- Colrain — Jacksonville Road over North River; one 75-foot span, steel truss.
- Dedham — Greendale Avenue at Needham line over Charles River; 55-foot span, stone arch.
- Dedham — West Street over Circumferential Highway; one 62-foot span, reinforced concrete rigid frame.
- Deerfield — Cheapside Bridge at Greenfield line over Deerfield River; three 133-foot spans, steel deck truss and two 50-foot spans, steel beam; total length 538 feet.
- Erving — Greenfield Road over tracks of Central Vermont Railroad; one 35-foot span, one 47-foot span and one 50-foot span, steel beam encased in concrete, and reinforced concrete floor.
- Erving — At Gill line over Connecticut River; one 460-foot span and two 161-foot spans, steel deck, spandrel braced arch with supported cantilever ends.
- Erving — Greenfield Road over Moore Street; one 57-foot span, steel beam, with reinforced concrete floor.
- Foxborough — Washington Street over Main Street; one 52-foot span, steel beam with reinforced concrete floor.
- Foxborough — Providence Turnpike over tracks of New York, New Haven and Hartford Railroad; three 41-foot spans, reinforced concrete beam and slab.
- Foxborough — Providence Turnpike over Neponset River; one 14-foot span, reinforced concrete box culvert.
- Framingham — Worcester Turnpike over Reservoir; one 50-foot span, steel beam and reinforced concrete floor.
- Framingham — Worcester Turnpike over Sudbury River; one 70-foot span, steel girder with reinforced concrete floor.
- Framingham — Marlborough Connection over Worcester Turnpike and tracks of New York, New Haven and Hartford Railroad; two 90-foot spans, steel plate girder with reinforced concrete floor.
- Framingham — Under Concord Street; two 50-foot spans, reinforced concrete beam and slab.
- Gill — At Greenfield line over Falls River; two 63-foot spans and one 74-foot span, deck plate girders with reinforced concrete floor.
- Great Barrington — Upper Main Street over Housatonic River; one 115-foot span, steel pony truss and reinforced concrete floor.
- Groton — Paper Mill Village at Pepperell line over Nashua River; eight 20-foot spans, reinforced concrete beam and slab on concrete pile trestle.
- Hingham — At Hull line over Weir River; three 61-foot spans, deck plate girder with reinforced concrete floor.
- Hinsdale — Washington Road over tracks of Boston and Albany Railroad; one 74-foot span, plate girder with reinforced concrete floor.

- Ipswich — Rowley Road over tracks of Boston and Maine Railroad.
- Lakeville — Bedford Street over tracks of New York, New Haven and Hartford Railroad; three 35-foot spans, steel beam and reinforced concrete floor.
- Lynnfield — Main Street at Wakefield line over Saugus River; one 12-foot span, reinforced concrete slab.
- Millbury — Southwest Connection, one 102-foot span over tracks of New York, New Haven and Hartford Railroad; and one 80-foot span over Canal of Worcester Sewage Disposal Plant; through plate girders with reinforced concrete floor.
- Millbury — Southwest Connection over Blackstone River; two 63-foot spans and one 74-foot span, plate girders and reinforced concrete floor.
- Millbury — Southwest Connection over Millbury Street; one 114-foot span, plate girder and reinforced concrete floor.
- Millis — Baltimore Street over Charles River; one 42-foot span, reinforced concrete beam and slab.
- Natick — Worcester Turnpike over Brook; one 12-foot span, reinforced concrete culvert.
- Natick — North Main Street over Worcester Turnpike; two 45-foot spans, steel beam and reinforced concrete floor.
- Natick — Worcester Turnpike over Lake Cochituate; three 23-foot spans, reinforced concrete pile and slab.
- North Andover — State Highway over Cochichewick River; one 14-foot span, reinforced concrete slab.
- Northborough — Boston Post Road over Wachusett Aqueduct; one 46-foot span, reinforced concrete beam and slab.
- Northborough — Southwest Connection over Hop Brook; one 14-foot span, reinforced concrete culvert.
- Norwood — Providence Turnpike over Neponset River; one 24-foot span, reinforced concrete beam and slab.
- Revere — Revere Beach Parkway over Broadway; one 72-foot span, three-hinged steel arch and reinforced concrete floor.
- Salem — Road from Loring Avenue over Forest River; one 11-foot span, reinforced concrete box culvert.
- Seekonk — Luther's Corner over Runnins River; one 12-foot span, reinforced concrete culvert.
- Shrewsbury — Southwest Connection over Lake Quinsigamond; one 15-foot span, reinforced concrete box culvert.
- Shrewsbury — Southwest Connection over Flints Pond; three 23-foot spans, reinforced concrete beam and slab on concrete pile trestle.
- South Hadley — Hockanum Road over Sandy Brook; three 23-foot spans, reinforced concrete pile trestle.
- Topsfield — Salem Road over Ipswich River; two 24-foot spans, reinforced concrete beam and slab.
- Uxbridge — Millville Road over Blackstone River; two 38-foot spans and one 45-foot span, reinforced concrete beam and slab.
- Uxbridge — Ironstone Road under tracks of New York, New Haven and Hartford Railroad; one 61-foot span, plate girder and reinforced concrete floor.
- Uxbridge — Ironstone Road over Emerson Brook; one 14-foot span, reinforced concrete box culvert.
- Uxbridge — Ironstone Road over Ironstone Reservoir Outlet; one 23-foot span, reinforced concrete beam and slab.
- West Stockbridge — Great Barrington Road over Williams River; one 45-foot span, reinforced concrete beam and slab.
- Westwood — Circumferential Highway over tracks of the New York, New Haven and Hartford Railroad; one 61-foot span and two 34-foot spans, steel beam and reinforced concrete floor.
- Westwood — Circumferential Highway over tracks of the New York, New Haven and Hartford Railroad; three 41-foot spans, steel beam encased in concrete and reinforced concrete floor.
- Williamsburg — Chesterfield Road over Meekins Brook; one 28-foot span, reinforced concrete beam and slab.



- Williamsburg — Chesterfield Road over West Branch of Mill River; one 35-foot span, reinforced concrete beam and slab.
- Worcester — Southwest Connection under tracks of Boston and Albany Railroad; two 48-foot spans, deck plate girder.
- Worcester — Southwest Connection under Grafton Street; two 42-foot spans, steel beam and reinforced concrete floor.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES MADE OR  
CONTRACTED FOR

- Ashby — Main Street over Willard Brook; one 39-foot span, reinforced concrete arch extension.
- Ashby — Townsend Road over Trap Falls Brook; one 13-foot span, stone arch extension.
- Becket — Jacob's Ladder over Walker Brook; one 43-foot span, reinforced concrete beam extension.
- Becket — Jacob's Ladder over Walker Brook; one 42-foot span, reinforced concrete beam extension.
- Becket — Jacob's Ladder over Walker Brook; one 45-foot span, reinforced concrete beam extension.
- Becket — Jacob's Ladder over Walker Brook; one 13-foot span, reinforced concrete slab extension.
- Becket — Jacob's Ladder over Sparks Brook; one 15-foot span, reinforced concrete slab extension.
- Becket — Jacob's Ladder over Branch of Walker Brook; one 18-foot span, reinforced concrete beam extension.
- Becket — Jacob's Ladder over Walker Brook; one 22-foot span, reinforced concrete beam extension.
- Fairhaven — At New Bedford line over Acushnet River; repairs to floor system.
- Millis — Orchard Street over Boggastowe Brook; reinforced concrete slab extension of stone arch 11-foot span.
- North Reading — At Reading line over Ipswich River; two 15-foot spans and one 29-foot span, reinforced concrete beam and pile extension.
- North Reading — State highway over Martins Brook; one 25-foot span, reinforced concrete arch extension.
- Northborough — Boston Post Road over Assabet River; one 39-foot span, reinforced concrete beam extension.
- Palmer — Monson Road over Quabaug River; one 50-foot span and two 20-foot spans, reinforced concrete arch extension of stone arch.
- Pepperell — South Street over Mill Pond outlet; two 12-foot spans, reinforced concrete culvert.
- Rowley — Beans Crossing over tracks of Boston and Maine Railroad; one 40-foot span and two 37-foot spans, steel beam extension to reinforced concrete arch.
- Salem — Loring Avenue over Forest River; one 10-foot span, reinforced concrete culvert extension.
- Stockbridge — Bowl Road over Marsh Brook; one 17-foot span, concrete arch extension.
- Sturbridge — Southbridge Road over Hobbs Brook; one 10-foot span, reinforced concrete slab extension to stone arch.
- Townsend — Ashby Road over Willard Brook; one 23-foot span and one 25-foot span, stone arch extension.
- Townsend — Ashby Road over Willard Brook; one 16-foot span and one 18-foot span, stone arch extension.
- Townsend — Ashby Road over Willard Brook; two 40-foot spans, stone arch extension.
- Townsend — Ashby Road over Pearl Hill Brook; one 20-foot span, reinforced concrete beam extension.

CONTEMPLATED BRIDGES AND STRUCTURES

*Plans, Studies or Estimates Made*

*Cities and Towns, Locality and Character of Structure.*

- Arlington — Pleasant Street grade separation.
- Attleboro — Washington Street over tracks of New York, New Haven and Hartford Railroad.

- Ayer — West Main Street over tracks of Boston and Maine Railroad.
- Bellingham — Wrentham Street over Peters River.
- Boston — Viaduct over tracks of Midland Division of New York, New Haven and Hartford Railroad, Neponset River, and River Street connecting Neponset River Parkway with the proposed extension of Canterbury Street; grade separation over Neponset River Parkway; grade separations on proposed Clarendon Hills Parkway at Hyde Park Avenue, over the tracks of the New York, New Haven and Hartford Railroad, and Poplar Street.
- Brookline — Grade separations at Cypress Street and at Brookline Village.
- Cambridge — Grade separation at Alewife Brook Parkway.
- Dedham — Providence Turnpike over Williams Street; over High Street; and grade separation at Circumferential highway.
- Lexington — Grade separation of proposed highway and Waltham Street.
- Lincoln — South Great Road over tracks of Fitchburg Division, Boston and Maine Railroad.
- Littleton — State highway over tracks of Fitchburg Division, Boston and Maine Railroad.
- Manchester — Bypass and drawbridge over Manchester Harbor.
- Newbury — Newburyport Turnpike over tracks of Boston and Maine Railroad.
- Newton — Worcester Turnpike over Charles River at Wellesley line; over Quinobequin Road; over Chestnut Street; concrete saddle over Aqueduct; over Centre Street; over Parker Street; and over the proposed parkway.
- Pittsfield — Woodleigh Avenue over Smith Brook.
- Pittsfield — Lebanon Avenue over West Branch Housatonic River.
- Pittsfield — State highway over Phelps Brook.
- Revere — At Point of Pines over Boston, Revere Beach and Lynn Railroad, Highway, and private property. Highway underpass under parkway.
- Revere — Beach Street and Hitchborn Road over tracks of Boston and Maine Railroad and proposed highway.
- Revere — Over Parkway near Revere Station and under Parkway near Eliot Circle.
- Waltham — Beaver Brook Station, Main Street over tracks of Boston and Maine Railroad.
- Wellesley — Worcester Turnpike over Aqueduct, over Weston Road, over Cliff Road, over Boston and Albany Railroad, over Aqueduct at Wellesley Hills Village, and under Cedar Street.
- Westfield — Frog Hole bridge over Powder Mill Brook.
- Westfield — Main Street over Westfield River.
- Westwood — Providence Turnpike under tracks of New York, New Haven and Hartford Railroad; grade separation of proposed Providence Turnpike and connection to Neponset River Parkway.
- Weymouth — Main Street over tracks of New York, New Haven and Hartford Railroad.
- Winchester — Grade separation of highway and tracks of Boston and Maine Railroad.
- Worthington — Huntington Road over Little River; over Mill Pond and over a brook.
- Yarmouth — West Yarmouth Road over Parkers River.

*Examinations, Reports, Estimates, etc., at Request of Cities and Towns*

*Towns, Locality and Character of Work*

- Great Barrington — Cottage Street bridge; examination for condition to withstand traffic as a detour during construction of State bridge.
- Holland — Sturbridge Road over Quinebaug River; one 15-foot span, reinforced concrete slab.

*Examinations, Reports, Estimates, etc., by direction of the Department*

*Cities and Towns, Locality and Subject*

- Billerica — At Wilmington line over Shawsheen River; examination for condition of bridge.



- Cummington — Town Road over Westfield River; examination for strength of bridge.
- Boston — D Street Garage of Department; design for strengthening roof beams.
- North Reading — State highway over tracks of Boston and Maine Railroad; report on strength of bridge.
- Norton — Easton Road over Rumford River; examination and estimate for repairs to bridge.

*Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313 of Acts of 1923*

- Ashburnham — Westminster Street over Branch of Nashua River; one 11-foot span, reinforced concrete slab.
- Barre — Old Barre Falls bridge over Ware River; one 42-foot span, plate girder.
- Brockton — Oak Street bridge over Salisbury Brook; one 16-foot span, reinforced concrete slab.
- Chicopee — Chicopee Center bridge over Chicopee River and Canal; three 94-foot spans, reinforced concrete arch over river, and one 40-foot span, reinforced concrete beam over Canal.
- Conway — Bear River bridge; one 30-foot span, reinforced concrete arch.
- Haverhill — Thompson Road bridge over East Meadow Brook; one 14-foot span, reinforced concrete slab.
- Lee — Silver Street over outlet to Greenwater Pond; one 25-foot span, steel beam with reinforced concrete floor.
- Montague — Footbridge at Turner's Falls, one 135-foot span, steel truss with plank floor.
- Springfield — Parker Street; one 15-foot span, extension to North Branch culvert.
- Sutton — At Manchaug over Mill Canal; one 14-foot span, reinforced concrete slab.
- Worcester — Mill Street over Tatnuck Brook; one 34-foot span, steel beam.

*Examinations, Studies, Estimates and Reports by direction of Acts and Resolves of the Legislature*

- Chapter 450, Acts of 1931, Section 8. This section of the Act directs the department of public works "to make surveys and prepare plans and estimates of cost of a grade separation by means of an overpass at the intersection of the Riverway and Huntington Avenue in the City of Boston." Preliminary plans and estimates have been completed.
- Chapter 32, Resolves 1931. "Resolve providing for an investigation by the department of public works relative to the advisability of constructing certain highways for the purpose of relieving traffic." The resolve directs consideration to the following 1931 documents: House 16, 131, 204, 480, 483, 683, 954, and Senate 511. The investigation has been completed and the report has been filed with the clerk of the house of representatives.
- Chapter 38, Resolves of 1931. "Resolve providing for an investigation by the department of public works relative to the construction and improvement of certain highways within and near the Metropolitan parks district." The investigation has been completed and a report has been filed with the clerk of the senate.
- Chapter 51, Resolves of 1931. "Resolve providing for the making and preparation by the department of public works of surveys, estimates, plans and specifications for the construction of a new bridge over the Saugus River between the Point of Pines in the city of Revere and the city of Lynn." The plans and specifications have been prepared.
- Chapter 54, Resolves of 1931. "Resolve providing for a study by the department of public works relative to the construction of a bridge over the Weymouth Fore River." A report has been filed with the clerk of the senate.
- Chapter 56, Resolves of 1931. "Resolve providing for an investigation by the department of public works relative to the reconstruction of Fox Hill Bridge over the Saugus River." The report has been filed with the clerk of the house of representatives.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1931, was 415. In 1930 the number of such openings was 335; in 1929 the number was 383; in 1928 the number was 365.

The total expenditure during the year was \$7,773.97.

The total expenditure from 1912 to Nov. 30, 1931, inclusive, was \$155,861.33.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1931, was 1,700. In 1930 the number of such openings was 1,812; in 1929 the number was 1,789; in 1928 the number was 1,982.

The total expenditure during the year was \$13,444.24.

The total expenditure from 1912 to Nov. 30, 1931, inclusive, was \$341,424.98.

BRIDGE OVER THE ACUSHNET RIVER BETWEEN CITY OF NEW BEDFORD AND THE TOWN OF FAIRHAVEN

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

Averaged over a period of years, the draw openings have numbered more than 2,900 annually.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1930, was 1,069; the number of such openings during the year ending Nov. 30, 1931, was 2,564.

The total expenditure during the year was \$22,762.93.

The total expenditure while in charge of the Department has been \$32,828.49.

CONSTRUCTION OF TOWNS AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, as revised by section 1, chapter 112, Acts of 1921, by chapter 288, Acts of 1925, and by Chapter 316, Acts of 1928.)

During the year the Department has contracted for work to be done in the towns/cities named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns, cities and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS		Type of Road	Length con- tracted for (Feet)
		Town	County		
<i>Barnstable County</i>					
Barnstable . . . . .	\$10,000 00	\$10,000 00	\$10,000 00	Bituminous concrete . . . . .	6,150
Bourne . . . . .	12,000 00	12,000 00	12,000 00	Bridge and approaches . . . . .	—
Harwich . . . . .	12,000 00	12,000 00	6,000 00	Bituminous concrete . . . . .	7,135
<i>Berkshire County</i>					
Alford . . . . .	3,383 22	1,127 73	2,255 48	Stone retread . . . . .	7,713
Alford . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,900
Becket . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	650
Becket . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,000
Becket . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,000
Cheshire . . . . .	700 00	400 00	400 00	Gravel . . . . .	1,600
Cheshire . . . . .	10,000 00	5,500 00	3,000 00	Bituminous macadam . . . . .	2,633
Cheshire . . . . .	1,000 00	—	2,500 00	Bridge and approaches . . . . .	—
Clarksburg . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,050
Egremont . . . . .	3,700 00	1,850 00	1,850 00	Stone retread . . . . .	6,750
Florida . . . . .	4,000 00	4,000 00	—	Gravel . . . . .	800
Great Barrington . . . . .	15,000 00	15,000 00	—	Bituminous macadam . . . . .	5,600



COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Berkshire County — Continued</i>					
Great Barrington . . .	32,500 00	32,500 00	—	Bridge and approaches	—
Hancock . . .	1,000 00	500 00	1,000 00	Gravel	750
Hancock . . .	1,200 00	300 00	—	Oiling	30,624
Hancock . . .	350 00	200 00	—	Oiling	9,400
Hancock . . .	25,000 00	1,000 00	4,000 00	Bituminous macadam	4,900
Lanesborough . . .	900 00	450 00	450 00	Stone retread	2,500
Lanesborough . . .	4,000 00	2,000 00	2,000 00	Stone retread	2,070
Lenox . . .	5,000 00	5,000 00	—	Drainage	—
Monterey . . .	64,100 00	14,550 00	19,550 00	Bituminous macadam	18,715
Monterey . . .	900 00	450 00	450 00	Stone retread	6,000
Mount Washington . . .	1,500 00	500 00	1,000 00	Gravel	550
New Marlborough . . .	2,000 00	1,500 00	1,000 00	Stone retread	5,600
New Marlborough . . .	4,500 00	2,000 00	2,000 00	Stone retread	10,400
New Marlborough . . .	1,500 00	1,500 00	1,000 00	Stone retread	5,011
New Marlborough . . .	1,000 00	1,000 00	1,000 00	Gravel	900
Otis . . .	2,000 00	500 00	2,000 00	Gravel	1,225
Richmond . . .	2,500 00	1,000 00	1,500 00	Gravel	1,350
Sandisfield . . .	4,000 00	2,000 00	2,000 00	Stone retread	9,800
Savoy . . .	24,000 00	—	8,000 00	Gravel and tar	5,400
Sheffield . . .	3,000 00	1,500 00	1,500 00	Gravel and stone retread	7,250
Stockbridge . . .	30,000 00	30,000 00	—	Bituminous macadam	7,895
Tyringham . . .	4,000 00	2,000 00	2,000 00	Stone retread	2,300
Washington . . .	4,000 00	2,000 00	2,000 00	Gravel	2,200
West Stockbridge . . .	10,000 00	5,000 00	5,000 00	Bridge and approaches	—
West Stockbridge . . .	7,000 00	3,000 00	4,000 00	Stone retread	3,440
Williamstown . . .	2,000 00	4,000 00	—	Gravel	1,950
Windsor . . .	1,000 00	500 00	500 00	Gravel and hardpan	650
Windsor . . .	1,000 00	500 00	500 00	Gravel	300
<i>Bristol County</i>					
Attleboro . . .	15,000 00	18,000 00	15,000 00	Bituminous macadam	4,975
Berkley . . .	2,000 00	2,000 00	—	Repairs and oiling	47,300
Dighton . . .	4,000 00	6,000 00	—	Bituminous macadam	4,225
Dighton . . .	10,000 00	10,000 00	—	Bituminous macadam	3,000
Easton . . .	15,000 00	15,000 00	10,000 00	Bituminous macadam	7,720
Freetown . . .	4,000 00	1,400 00	4,000 00	Gravel	2,782
Freetown . . .	1,000 00	1,000 00	—	Repairs and oiling	65,500
Mansfield . . .	8,000 00	10,000 00	8,000 00	Bituminous macadam	2,215
Norton . . .	3,000 00	1,000 00	2,000 00	Gravel	1,650
Seekonk . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam	1,750
Swansea . . .	4,000 00	4,000 00	—	Gravel	2,400
Westport . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam	1,500
<i>Essex County</i>					
Andover . . .	4,500 00	4,500 00	4,500 00	Bituminous macadam	1,762
Boxford . . .	2,500 00	2,500 00	2,500 00	Gravel	3,000
Boxford . . .	1,000 00	1,000 00	1,000 00	Gravel	1,300
Boxford . . .	1,000 00	1,000 00	1,000 00	Gravel	1,400
Boxford . . .	12,000 00	6,000 00	6,000 00	Gravel	5,300
Danvers . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam	340
Danvers . . .	2,300 00	2,300 00	2,300 00	Bituminous macadam	500
Georgetown . . .	28,000 00	5,000 00	17,000 00	Bituminous macadam	8,500
Groveland . . .	3,000 00	3,000 00	3,000 00	Gravel	2,800
Hamilton . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam	7,400
Ipswich . . .	4,000 00	4,000 00	4,000 00	Gravel	3,850
Lynnfield . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam	5,200
Marblehead . . .	12,000 00	24,000 00	12,000 00	Bridge and approach	—
Methuen . . .	9,500 00	10,500 00	9,500 00	Bituminous macadam	7,170
Methuen . . .	8,500 00	9,500 00	8,500 00	Bituminous macadam	5,200
Newbury . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam	3,940
Newburyport . . .	5,000 00	5,000 00	5,000 00	Gravel and bituminous material mixed in place	5,382
Rockport . . .	5,000 00	5,000 00	—	Bituminous material and gravel mixed in place	2,880
Rowley . . .	17,000 00	3,000 00	—	Bituminous macadam	825
Rowley . . .	500 00	500 00	10,000 00	Bituminous macadam	3,567
Salisbury . . .	5,000 00	5,000 00	—	Oiling	11,000
Salisbury . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam	4,581
Salisbury . . .	5,000 00	5,000 00	5,000 00	Bituminous material and gravel mixed in place	2,650
Saugus . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam	7,325
Topsfield . . .	39,000 00	7,000 00	24,000 00	Bituminous macadam	8,772
Topsfield . . .	3,000 00	6,500 00	—	Bridge and approaches	—
Wenham . . .	23,000 00	4,000 00	13,000 00	Bituminous macadam	5,900
West Newbury . . .	5,500 00	5,500 00	5,500 00	Gravel	5,295
<i>Franklin County</i>					
Ashfield . . .	4,245 00	600 00	—	Repairs and oiling	31,680
Ashfield . . .	1,500 00	1,500 00	—	Gravel	1,000
Ashfield . . .	1,500 00	1,500 00	—	Gravel	1,100
Ashfield . . .	5,000 00	1,500 00	1,000 00	Gravel	3,800
Buckland . . .	7,000 00	5,000 00	1,000 00	Bituminous macadam	3,000
Buckland . . .	1,500 00	1,000 00	—	Bituminous macadam	492
Charlemont . . .	2,000 00	1,000 00	1,000 00	Bridge and approaches	—
Colrain . . .	6,000 00	3,500 00	2,500 00	Bridge and approaches	—
Colrain . . .	2,000 00	1,000 00	1,000 00	Gravel	1,400
Conway . . .	3,000 00	2,000 00	1,000 00	Gravel	2,200
Deerfield . . .	4,000 00	3,000 00	1,000 00	Bituminous macadam	1,850
Gill . . .	2,965 00	670 00	—	Repairs and oiling	35,376

## COUNTIES AND TOWNS

	State	Town	County	Type of Road	Length contracted for (Feet)
<i>Franklin County — Continued</i>					
Gill . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,637
Greenfield . . . . .	7,500 00	6,000 00	1,000 00	Bituminous macadam . . . . .	1,200
Greenfield . . . . .	6,000 00	6,000 00	1,000 00	Bituminous macadam . . . . .	3,700
Hawley . . . . .	1,400 00	700 00	700 00	Gravel . . . . .	925
Hawley . . . . .	1,400 00	700 00	700 00	Gravel . . . . .	3,000
Heath . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,800
Leverett . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,500
Leyden . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,400
Monroe . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	2,000
New Salem . . . . .	2,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	18,480
New Salem . . . . .	500 00	500 00	—	Repairs and oiling . . . . .	4,224
New Salem . . . . .	1,500 00	500 00	—	Repairs and oiling . . . . .	17,600
Northfield . . . . .	1,925 00	75 00	—	Gravel retread . . . . .	1,848
Northfield . . . . .	2,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	1,700
Orange . . . . .	1,000 00	1,000 00	500 00	Gravel . . . . .	1,400
Orange . . . . .	1,000 00	1,000 00	500 00	Repairs and oiling . . . . .	5,000
Rowe . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,512
Shelburne . . . . .	8,500 00	7,500 00	1,000 00	Bituminous macadam . . . . .	3,400
Shutesbury . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	2,000
Sunderland . . . . .	14,000 00	3,500 00	2,000 00	Bituminous macadam . . . . .	4,816
Warwick . . . . .	24,150 00	300 00	—	Repairs and oiling . . . . .	44,880
Warwick . . . . .	1,000 00	1,000 00	—	Bridge and approaches . . . . .	—
Warwick . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,400
Wendell . . . . .	1,250 00	1,250 00	—	Repairs and oiling . . . . .	15,840
Wendell . . . . .	3,000 00	2,000 00	1,000 00	Gravel . . . . .	1,800
Whately . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,700
<i>Hampden County</i>					
Agawam . . . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . . . . .	9,800
Blandford . . . . .	20,500 00	4,500 00	20,500 00	Bridge and approaches . . . . .	—
Blandford . . . . .	2,000 00	1,000 00	2,000 00	Grading . . . . .	2,850
Brimfield . . . . .	4,000 00	2,000 00	4,000 00	Gravel and tar mixed . . . . .	3,650
Brimfield . . . . .	300 00	200 00	300 00	Repairs and oiling . . . . .	6,336
Brimfield . . . . .	250 00	250 00	250 00	Repairs and oiling . . . . .	11,088
Chester . . . . .	5,000 00	1,000 00	5,000 00	Gravel . . . . .	2,300
Chester . . . . .	5,000 00	1,000 00	5,000 00	Stone retread . . . . .	2,800
Chester . . . . .	2,500 00	—	2,500 00	Stone retread . . . . .	4,000
Chester . . . . .	3,000 00	1,000 00	3,000 00	Stone retread . . . . .	6,800
Chester . . . . .	1,000 00	—	1,000 00	Gravel . . . . .	1,200
Chicopee . . . . .	73,000 00	—	57,000 00	Bituminous macadam . . . . .	17,531
East Longmeadow . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	6,800
Granville . . . . .	14,490 00	350 00	—	Repairs and oiling . . . . .	29,040
Granville . . . . .	5,500 00	3,000 00	5,500 00	Gravel . . . . .	2,950
Hampden . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	4,000
Hampden . . . . .	5,600 00	2,800 00	5,600 00	Bituminous macadam . . . . .	3,100
Holland . . . . .	5,000 00	1,000 00	5,000 00	Gravel . . . . .	2,500
Holland . . . . .	700 00	700 00	700 00	Repairs and oiling . . . . .	13,464
Holyoke . . . . .	25,000 00	25,000 00	25,000 00	Bituminous macadam . . . . .	11,100
Ludlow . . . . .	8,000 00	8,000 00	8,000 00	Bituminous macadam . . . . .	6,099
Ludlow . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . . . .	1,900
Ludlow . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	750
Ludlow . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	2,800
Monson . . . . .	3,000 00	2,000 00	3,000 00	Bituminous macadam . . . . .	1,500
Montgomery . . . . .	3,000 00	1,000 00	3,000 00	Gravel . . . . .	1,900
Palmer . . . . .	4,000 00	4,000 00	4,000 00	Gravel . . . . .	4,750
Russell . . . . .	2,000 00	2,000 00	2,000 00	Stone retread . . . . .	7,920
Russell . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	1,200
Southwick . . . . .	1,500 00	1,000 00	1,500 00	Bituminous macadam . . . . .	1,212
Southwick . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	200
Springfield . . . . .	35,000 00	35,000 00	35,000 00	Bituminous macadam . . . . .	9,500
Tolland . . . . .	4,000 00	2,500 00	4,000 00	Gravel . . . . .	2,500
Wales . . . . .	1,500 00	1,000 00	1,500 00	Gravel . . . . .	1,000
Wales . . . . .	250 00	250 00	250 00	Repairs and oiling . . . . .	3,450
West Springfield . . . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . . . . .	6,978
Westfield . . . . .	15,000 00	15,000 00	15,000 00	Gravel and bituminous macadam . . . . .	16,266
Westfield . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,000
Westfield . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,500
Wilbraham . . . . .	4,000 00	4,000 00	4,000 00	Bituminous macadam . . . . .	2,600
Wilbraham . . . . .	2,500 00	2,500 00	2,500 00	Gravel . . . . .	4,738

*Hampshire County*

Amherst . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	6,250
Belchertown . . . . .	1,390 00	620 00	—	Repairs and oiling . . . . .	16,368
Belchertown . . . . .	32,500 00	7,500 00	10,000 00	Bituminous macadam . . . . .	8,437
Chesterfield . . . . .	11,700 00	1,800 00	4,500 00	Gravel retread . . . . .	31,680
Chesterfield . . . . .	6,150 00	1,100 00	2,750 00	Bridge and approaches . . . . .	—
Chesterfield . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	600
Chesterfield . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	600
Cummington . . . . .	945 00	75 00	—	Repairs and oiling . . . . .	7,800
Cummington . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,000
Cummington . . . . .	3,000 00	1,500 00	1,500 00	Gravel . . . . .	1,800
Easthampton . . . . .	11,200 00	11,200 00	6,600 00	Bituminous macadam . . . . .	3,150
Enfield . . . . .	1,475 00	—	—	Repairs and oiling . . . . .	11,616
Enfield . . . . .	1,000 00	500 00	500 00	Repairs and oiling . . . . .	8,876
Goshen . . . . .	1,320 00	90 00	—	Repairs and oiling . . . . .	9,400
Goshen . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	750
Goshen . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	800



## COUNTIES AND TOWNS

	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Hampshire County—Continued</i>					
Goshen	500 00	500 00	—	Oiling	10,560
Granby	2,000 00	1,000 00	1,000 00	Bituminous macadam	950
Granby	4,000 00	2,000 00	2,000 00	Bituminous macadam	1,800
Greenwich	2,000 00	1,000 00	1,000 00	Repairs and oiling	33,264
Hadley	20,000 00	10,000 00	10,000 00	Bituminous macadam	5,103
Hatfield	2,000 00	2,000 00	2,000 00	Bituminous macadam	1,400
Huntington	2,000 00	1,000 00	1,000 00	Gravel	1,050
Middlefield	1,000 00	—	500 00	Gravel	500
Middlefield	2,000 00	1,000 00	1,000 00	Gravel	1,000
Middlefield	1,000 00	500 00	500 00	Gravel	750
Middlefield	1,000 00	—	—	Gravel	400
Northampton	5,000 00	5,000 00	3,000 00	Bituminous macadam	5,390
Pelham	1,000 00	500 00	500 00	Gravel	1,200
Pelham	6,800 00	1,200 00	4,000 00	Bituminous macadam	3,500
Plainfield	4,638 00	250 00	—	Oiling	13,281
Plainfield	24,000 00	1,000 00	3,000 00	Gravel and tar	2,950
South Hadley	20,000 00	10,000 00	10,000 00	Bituminous macadam	3,500
South Hadley	1,500 00	1,500 00	1,500 00	Bituminous macadam	935
Southampton	1,000 00	500 00	500 00	Stone retread	2,200
Ware	6,000 00	3,000 00	3,000 00	Repairs and oiling	11,101
Westhampton	1,500 00	750 00	750 00	Gravel	1,000
Williamsburg	10,400 00	1,600 00	4,000 00	2 Bridges and approaches	—
Worthington	1,000 00	500 00	500 00	Gravel	563
Worthington	4,000 00	2,000 00	2,000 00	Stone retread	3,800
Worthington	3,200 00	300 00	—	Repairs and calcium chloride	31,132
<i>Middlesex County</i>					
Acton	2,000 00	2,000 00	2,000 00	Repairs and oiling	76,032
Acton	2,500 00	2,500 00	2,500 00	Gravel	3,100
Acton	3,000 00	3,000 00	3,000 00	Gravel	4,500
Arlington	10,000 00	10,000 00	10,000 00	Reinforced cement concrete	2,415
Ashby	1,000 00	500 00	1,000 00	Repairs and oiling	17,952
Ashland	1,000 00	1,000 00	1,000 00	Gravel	1,500
Ashland	1,000 00	1,000 00	1,000 00	Repairs and oiling	11,616
Ashland	1,000 00	1,000 00	1,000 00	Gravel	1,796
Ashland	1,000 00	1,000 00	1,000 00	Gravel	1,500
Ayer	1,000 00	1,000 00	1,000 00	Repairs and oiling	21,550
Ayer	2,500 00	2,500 00	2,500 00	Gravel	2,550
Bedford	1,000 00	1,000 00	1,000 00	Gravel	1,500
Bedford	1,000 00	1,000 00	1,000 00	Gravel	2,100
Bedford	1,900 00	1,900 00	1,900 00	Repairs and oiling	43,296
Billerica	500 00	500 00	500 00	Gravel	780
Billerica	6,000 00	6,000 00	6,000 00	Gravel	4,000
Billerica	4,000 00	4,000 00	4,000 00	Gravel	3,000
Billerica	2,000 00	2,000 00	2,000 00	Repairs and oiling	59,664
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,080
Boxborough	900 00	900 00	900 00	Repairs and oiling	32,208
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,300
Burlington	3,000 00	3,000 00	3,000 00	Gravel	4,500
Burlington	3,000 00	2,000 00	1,000 00	Repairs and oiling	47,520
Burlington	2,000 00	2,000 00	2,000 00	Gravel	4,000
Carlisle	2,000 00	2,000 00	2,000 00	Oiling	66,528
Carlisle	4,000 00	2,000 00	4,000 00	Gravel	4,000
Carlisle	2,235 00	2,235 00	2,235 00	Gravel	3,300
Chelmsford	3,000 00	3,000 00	3,000 00	Gravel	3,600
Chelmsford	3,000 00	3,000 00	3,000 00	Bituminous macadam	3,750
Concord	8,400 00	8,400 00	8,400 00	Bituminous macadam	3,700
Concord	2,400 00	2,400 00	2,400 00	Bituminous macadam	900
Concord	400 00	400 00	400 00	Bituminous macadam	200
Concord	333 00	333 00	333 00	Bridge extension and bitum- inous macadam	—
Dunstable	2,000 00	1,000 00	2,000 00	Gravel	2,500
Dunstable	1,750 00	1,750 00	1,750 00	Repairs and oiling	46,458
Framingham	10,000 00	20,000 00	10,000 00	Reinforced cement concrete	3,100
Framingham	6,000 00	12,000 00	6,000 00	Bituminous macadam	5,300
Groton	4,000 00	4,000 00	4,000 00	Gravel	3,725
Groton	3,500 00	3,500 00	3,500 00	Repairs and oiling	34,320
Groton	3,000 00	3,000 00	3,000 00	Gravel	3,000
Holliston	1,750 00	1,750 00	1,750 00	Oiling	41,712
Holliston	1,000 00	1,000 00	1,000 00	Gravel	1,500
Holliston	14,500 00	2,500 00	8,000 00	Bituminous macadam	4,200
Holliston	2,500 00	2,500 00	2,500 00	Gravel	3,600
Hopkinton	2,000 00	2,000 00	2,000 00	Oiling	61,776
Hopkinton	4,000 00	2,000 00	4,000 00	Bituminous macadam	2,000
Hudson	2,000 00	2,000 00	2,000 00	Bituminous macadam	700
Lexington	12,000 00	12,000 00	12,000 00	Bituminous macadam	2,700
Lincoln	1,000 00	1,000 00	1,000 00	Repairs and oiling	36,960
Lincoln	4,000 00	4,000 00	4,000 00	Repairs and oiling	15,840
Lincoln	1,200 00	1,200 00	1,200 00	Bituminous macadam	300
Littleton	1,000 00	1,000 00	1,000 00	Gravel	1,400
Littleton	1,000 00	1,000 00	1,000 00	Gravel	2,112
Littleton	2,000 00	2,000 00	2,000 00	Repairs and oiling	44,880
Lowell	2,000 00	2,000 00	2,000 00	Gravel	3,000
Lowell	4,500 00	4,500 00	4,500 00	Bituminous macadam	2,100
Lowell	2,500 00	2,500 00	2,500 00	Bituminous macadam	1,000
Malden	17,000 00	34,000 00	17,000 00	Reinforced concrete	3,330
Marlborough	1,700 00	1,700 00	1,700 00	Gravel	1,700

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Middlesex County—Continued</i>					
Marlborough . . . . .	3,000 00	6,000 00	3,000 00	Bituminous macadam . . . . .	1,200
Marlborough . . . . .	4,500 00	9,000 00	4,500 00	Bituminous macadam . . . . .	1,550
Melrose . . . . .	12,000 00	24,000 00	12,000 00	Cement concrete . . . . .	4,053
Natick . . . . .	4,500 00	4,500 00	4,500 00	Bituminous macadam . . . . .	2,550
North Reading . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . . . .	52,272
North Reading . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	3,000
Pepperell . . . . .	4,000 00	4,000 00	4,000 00	Repairs and oiling . . . . .	63,888
Pepperell . . . . .	4,000 00	4,000 00	4,000 00	Gravel . . . . .	5,000
Reading . . . . .	4,000 00	4,000 00	4,000 00	Bituminous macadam . . . . .	2,500
Sherborn . . . . .	2,000 00	2,000 00	2,000 00	Oiling . . . . .	71,280
Sherborn . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	1,200
Sherborn . . . . .	10,800 00	5,400 00	10,800 00	Bituminous macadam . . . . .	4,850
Sherborn . . . . .	1,200 00	600 00	1,200 00	Gravel . . . . .	2,500
Shirley . . . . .	10,000 00	5,000 00	10,000 00	Gravel . . . . .	11,690
Shirley . . . . .	750 00	750 00	750 00	Repairs and oiling . . . . .	39,072
Stoneham . . . . .	4,800 00	4,800 00	4,800 00	Bituminous macadam . . . . .	2,200
Stow . . . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . . . .	41,184
Sudbury . . . . .	3,000 00	3,000 00	3,000 00	Repairs and oiling . . . . .	79,728
Tewksbury . . . . .	4,500 00	4,500 00	4,500 00	Bituminous macadam . . . . .	2,000
Tewksbury . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	1,300
Tewksbury . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,700
Townsend . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	10,888
Townsend . . . . .	6,000 00	2,000 00	4,000 00	Gravel . . . . .	6,500
Tyngsborough . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . . . .	53,856
Tyngsborough . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	2,300
Tyngsborough . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	2,500
Wakefield . . . . .	750 00	750 00	750 00	Bridge and approaches . . . . .	—
Wayland . . . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam . . . . .	6,180
Wayland . . . . .	2,500 00	4,000 00	2,500 00	Repairs and oiling . . . . .	48,576
Westford . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	4,000
Westford . . . . .	6,000 00	6,000 00	6,000 00	Repairs and oiling . . . . .	100,848
Westford . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	2,600
Westford . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,000
Wilmington . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	5,500
Wilmington . . . . .	750 00	750 00	750 00	Repairs and oiling . . . . .	20,064
Woburn . . . . .	5,500 00	11,000 00	5,500 00	Bituminous concrete and bi- tuminous macadam . . . . .	3,843
<i>Nantucket County</i>					
Nantucket . . . . .	10,000 00	10,000 00	—	Bituminous concrete . . . . .	4,700
<i>Norfolk County</i>					
Avon . . . . .	7,300 00	7,000 00	7,000 00	Bituminous macadam . . . . .	3,846
Bellingham . . . . .	2,650 00	1,325 00	1,325 00	Repairs and oiling . . . . .	23,700
Canton . . . . .	8,000 00	8,000 00	8,000 00	Bituminous macadam . . . . .	3,895
Canton . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	2,050
Dedham . . . . .	700 00	700 00	700 00	Bituminous macadam . . . . .	520
Foxborough . . . . .	9,999 00	9,999 00	9,999 00	Bituminous macadam . . . . .	4,500
Franklin . . . . .	4,000 00	4,000 00	4,000 00	Gravel . . . . .	2,250
Franklin . . . . .	4,800 00	4,800 00	4,800 00	Gravel . . . . .	2,900
Holbrook . . . . .	7,000 00	7,000 00	7,000 00	Gravel . . . . .	5,350
Medway . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	3,614
Medway . . . . .	12,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	4,170
Millis . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	1,540
Millis . . . . .	7,000 00	7,000 00	7,000 00	Bridge and approaches . . . . .	—
Millis . . . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	10,560
Millis . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,000
Milton . . . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . . . . .	3,000
Needham . . . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . . . . .	6,950
Norfolk . . . . .	500 00	—	500 00	Gravel . . . . .	2,400
Norfolk . . . . .	6,000 00	2,000 00	4,000 00	Gravel . . . . .	4,964
Norfolk . . . . .	1,000 00	1,000 00	1,000 00	Gravel and oiling . . . . .	21,648
Norwood . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	3,150
Plainville . . . . .	10,000 00	5,000 00	5,000 00	Gravel . . . . .	5,800
Randolph . . . . .	6,500 00	6,500 00	6,500 00	Gravel . . . . .	4,825
Sharon . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	5,960
Sharon . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	3,800
Stoughton . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	24,300
Walpole . . . . .	500 00	—	—	Oiling . . . . .	2,200
Westwood . . . . .	14,000 00	14,000 00	14,000 00	Bituminous macadam . . . . .	4,896
Wrentham . . . . .	3,500 00	3,500 00	3,500 00	Gravel . . . . .	3,000
<i>Plymouth County</i>					
Bridgewater . . . . .	3,000 00	2,000 00	2,000 00	Gravel . . . . .	3,000
Bridgewater . . . . .	4,000 00	3,000 00	4,000 00	Bituminous macadam . . . . .	485
Carver . . . . .	5,500 00	5,500 00	7,000 00	Bituminous concrete and gravel . . . . .	4,000
East Bridgewater . . . . .	35,000 00	17,500 00	17,500 00	Bituminous concrete . . . . .	9,800
Halifax . . . . .	2,000 00	1,000 00	1,000 00	Bridge and approaches . . . . .	—
Halifax . . . . .	23,000 00	11,500 00	11,500 00	Bituminous concrete and gravel . . . . .	7,575
Hanson . . . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	4,500
Hingham . . . . .	24,000 00	24,000 00	24,000 00	Bituminous macadam . . . . .	11,620
Kingston . . . . .	6,000 00	3,500 00	3,500 00	Bituminous macadam . . . . .	2,100
Middleborough . . . . .	16,000 00	12,000 00	12,000 00	Bituminous macadam . . . . .	6,645
Pembroke . . . . .	10,000 00	6,000 00	5,000 00	Bituminous macadam . . . . .	4,763
Plympton . . . . .	29,500 00	8,000 00	12,500 00	Bituminous concrete . . . . .	9,590
Rochester . . . . .	6,000 00	3,000 00	3,000 00	Gravel . . . . .	4,850
Rockland . . . . .	18,000 00	9,000 00	9,000 00	Bituminous macadam . . . . .	7,000
West Bridgewater . . . . .	5,300 00	2,650 00	2,650 00	Bituminous macadam . . . . .	1,918



## COUNTIES AND TOWNS

	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Worcester County</i>					
Ashburnham	1,250 00	750 00	1,250 00	Repairs and oiling	16,896
Ashburnham	12,000 00	7,500 00	10,500 00	Gravel and tar	7,138
Athol	700 00	700 00	700 00	Repairs and oiling	15,312
Barre	1,200 00	1,200 00	1,200 00	Grading	2,200
Berlin	5,500 00	3,500 00	5,500 00	Gravel	1,875
Berlin	2,500 00	1,000 00	2,500 00	Repairs and oiling	43,296
Blackstone	2,000 00	2,000 00	2,000 00	Gravel	1,800
Blackstone	700 00	700 00	700 00	Repairs and oiling	17,424
Bolton	5,000 00	1,000 00	5,000 00	Bituminous macadam	1,450
Boylston	5,000 00	500 00	5,000 00	Repairs and gravel	5,000
Boylston	1,000 00	500 00	1,000 00	Repairs	37,658
Brookfield	2,000 00	1,000 00	2,000 00	Gravel and tar	1,400
Brookfield	4,000 00	2,000 00	4,000 00	Bituminous macadam	1,520
Brookfield	1,400 00	700 00	1,400 00	Repairs and oiling	10,096
Charlton	5,000 00	2,500 00	5,000 00	Bituminous macadam	2,000
Dana	1,600 00	400 00	1,600 00	Gravel and tar	950
Dana	2,500 00	1,000 00	2,500 00	Repairs and oiling	52,272
Fitchburg	30,000 00	30,000 00	20,000 00	Bituminous macadam	9,773
Gardner	5,000 00	10,000 00	5,000 00	Bituminous macadam	3,250
Grafton	1,500 00	1,500 00	1,500 00	Bituminous macadam	983
Hardwick	3,000 00	3,000 00	3,000 00	Bituminous macadam	2,200
Harvard	800 00	400 00	800 00	Repairs and oiling	17,424
Harvard	1,000 00	500 00	1,000 00	Repairs and oiling	9,240
Holden	1,000 00	1,000 00	1,000 00	Repairs and oiling	24,024
Hubbardston	4,000 00	2,000 00	4,000 00	Gravel and tar	2,550
Hubbardston	1,000 00	500 00	1,000 00	Repairs and oiling	42,768
Hubbardston	1,000 00	500 00	1,000 00	Gravel	1,150
Leicester	4,500 00	4,500 00	4,500 00	Gravel and tar	3,800
Lunenburg	1,000 00	500 00	1,000 00	Repairs and oiling	14,450
Lunenburg	500 00	500 00	500 00	Grading	950
Mendon	1,000 00	500 00	1,000 00	Repairs and oiling	28,512
Mendon	2,200 00	1,100 00	2,200 00	Gravel	1,400
Milford	12,000 00	12,000 00	12,000 00	Bituminous macadam	3,650
Millville	6,000 00	3,000 00	6,000 00	Gravel	3,100
New Braintree	3,000 00	1,500 00	3,000 00	Gravel and tar	3,000
New Braintree	500 00	500 00	500 00	Repairs and oiling	25,608
New Braintree	400 00	400 00	400 00	Repairs and oiling	21,120
North Brookfield	3,000 00	3,000 00	3,000 00	Gravel and tar	2,991
North Brookfield	500 00	500 00	500 00	Repairs and oiling	10,560
Northborough	5,000 00	5,000 00	5,000 00	Gravel and tar	4,283
Northborough	400 00	400 00	400 00	Repairs and oiling	7,920
Northborough	700 00	700 00	700 00	Repairs and oiling	9,768
Northbridge	4,500 00	4,500 00	4,500 00	Gravel and tar	3,250
Northbridge	4,000 00	4,000 00	4,000 00	Gravel retreat	2,600
Oakham	3,000 00	1,500 00	3,000 00	Gravel	2,400
Oakham	600 00	600 00	600 00	Repairs and oiling	23,760
Oxford	500 00	500 00	500 00	Repairs and oiling	17,134
Paxton	500 00	500 00	500 00	Gravel	850
Paxton	4,000 00	2,000 00	4,000 00	Gravel and tar	2,600
Paxton	1,200 00	600 00	1,200 00	Repairs and oiling	15,048
Phillipston	1,300 00	400 00	1,300 00	Repairs and oiling	21,384
Phillipston	4,500 00	1,000 00	4,500 00	Gravel and tar	3,687
Princeton	4,000 00	2,000 00	4,000 00	Gravel and tar	3,700
Princeton	2,400 00	600 00	3,000 00	Gravel and tar	2,700
Princeton	1,000 00	500 00	1,000 00	Repairs and oiling	22,704
Princeton	300 00	200 00	300 00	Repairs and oiling	3,960
Princeton	1,200 00	600 00	1,200 00	Repairs and oiling	2,800
Princeton	400 00	200 00	400 00	Repairs and oiling	16,104
Royalston	500 00	500 00	500 00	Repairs and oiling	11,088
Royalston	4,000 00	2,000 00	4,000 00	Gravel and tar	4,142
Royalston	400 00	200 00	400 00	Repairs and oiling	13,200
Royalston	1,200 00	800 00	1,200 00	Repairs and oiling	25,608
Rutland	4,000 00	2,000 00	4,000 00	Gravel	40,664
Rutland	4,000 00	2,000 00	4,000 00	Gravel and tar	3,250
Southborough	1,700 00	1,700 00	1,700 00	Bituminous macadam	3,900
Southborough	500 00	500 00	500 00	Repairs and oiling	35,904
Spencer	5,000 00	5,000 00	5,000 00	Grading	5,466
Spencer	200 00	500 00	200 00	Repairs and oiling	20,064
Sterling	4,000 00	2,000 00	4,000 00	Gravel and tar	4,700
Sterling	12,000 00	6,000 00	12,000 00	Gravel	3,400
Sterling	2,000 00	1,000 00	2,000 00	Repairs and oiling	24,816
Sturbridge	2,000 00	1,000 00	2,000 00	Gravel and tar	1,650
Sutton	10,000 00	5,000 00	10,000 00	Bituminous macadam	4,590
Sutton	1,200 00	600 00	1,200 00	Repairs and oiling	10,197
Templeton	500 00	500 00	500 00	Repairs and oiling	6,072
Templeton	1,000 00	1,000 00	1,000 00	Repairs and oiling	18,744
Templeton	800 00	800 00	800 00	Repairs and oiling	13,200
Upton	4,000 00	2,000 00	4,000 00	Gravel	2,800
Warren	3,000 00	3,000 00	3,000 00	Gravel	2,000
West Boylston	1,000 00	500 00	1,000 00	Repairs and oiling	15,576
West Boylston	333 33	333 33	333 33	Repairs and oiling	8,450
West Brookfield	2,000 00	1,000 00	2,000 00	Gravel and tar	1,900
Westborough	10,000 00	9,000 00	11,000 00	Bituminous macadam	4,150
Westborough	10,000 00	10,000 00	10,000 00	Bituminous macadam	5,300
Westminster	2,000 00	1,000 00	2,000 00	Gravel	1,100
Westminster	2,000 00	1,000 00	2,000 00	Gravel	1,600
Westminster	1,600 00	800 00	1,600 00	Repairs and oiling	23,496
Winchendon	700 00	700 00	700 00	Gravel	2,700

# EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were: —

Barnstable, \$46,508.93	Hampshire, \$215,680.46
Berkshire, \$332,335.04	Middlesex, \$404,964.40
Bristol, \$85,430.40	Nantucket, \$11,889.89
Dukes, \$10,902.17	Norfolk, \$205,054.60
Essex, \$533,236.76	Plymouth, \$210,485.70
Franklin, \$177,397.78	Worcester, \$343,186.90
Hampden, \$299,317.33	Total, \$2,876,390.36

Details of the foregoing expenditures follow: —

*Barnstable County.* — Barnstable, \$10,213.74; Bourne, \$630.32; Harwich, \$34,422.74; Provincetown, \$1,242.13.

*Berkshire County.* — Adams, \$2,210.32; Alford, \$6,928.01; Becket, \$4,876.10; Cheshire, \$14,800.69; Clarksburg, \$1,219.02; Egremont, \$4,510.41; Florida, \$4,875.15; Great Barrington, \$21,033.80; Hancock, \$26,684.26; Hinsdale, \$9,943.32; Lanesborough, \$5,972.30; Lenox, \$11,496.69; Monterey, \$63,731.41; Mount Washington, \$1,828.54; New Marlborough, \$10,971.22; North Adams, \$6,095.12; Otis, \$7,305.35; Peru, \$23,637.03; Richmond, \$3,047.51; Sandisfield, \$4,876.10; Savoy, \$25,702.48; Sheffield, \$3,657.07; Stockbridge, \$37,396.15; Tyringham, \$4,869.49; Washington, \$4,876.05; West Stockbridge, \$14,915.35; Williamstown, \$2,438.05; Windsor, \$2,438.05.

*Bristol County.* — Attleboro, \$10,087.56; Berkley, \$3,499.41; Dighton, \$19,738.57; Easton, \$18,285.37; Freetown, \$4,319.41; Mansfield, \$8,114.63; Norton, \$6,322.80; Rehoboth, \$1,364.54; Seekonk, \$4,806.57; Swansea, \$5,234.46; Westport, \$3,657.08.

*Dukes County.* — Chilmark, \$10,902.17.

*Essex County.* — Andover, \$249,902.46; Boxford, \$27,939.35; Danvers, \$2,766.59; Georgetown, \$32,357.13; Groveland, \$6,095.12; Hamilton, \$14,628.30; Haverhill, \$3,884.09; Ipswich, \$7,276.48; Lynnfield, \$10,615.64; Marblehead, \$7,494.56; Merrimac, \$4,429.38; Methuen, \$21,942.50; Middleton, \$3,047.56; Newbury, \$2,993.72; Newburyport, \$883.87; No. Andover, \$35,219.91; Rockport, \$8,023.92; Rowley, \$12,178.38; Salisbury, \$7,810.23; Saugus, \$11,769.89; Topsfield, \$36,215.30; Wenham, \$18,181.74; West Newbury, \$7,580.64.

*Franklin County.* — Ashfield, \$14,921.47; Buckland, \$18,894.93; Charlemont, \$2,435.98; Colrain, \$9,099.86; Conway, \$3,657.07; Deerfield, \$4,870.39; Gill, \$6,052.48; Greenfield, \$21,262.85; Hawley, \$3,413.30; Heath, \$2,438.05; Leverett, \$1,219.02; Leyden, \$2,438.05; Monroe, \$2,438.05; Montague, \$4,201.44; New Salem, \$4,876.10; Northfield, \$4,738.02; Orange, \$2,590.74; Rowe, \$2,438.05; Shelburne, \$10,361.71; Shutesbury, \$2,438.05; Sunderland, \$13,845.32; Warwick, \$30,377.47; Wendell, \$5,180.88; Whately, \$3,208.50.

*Hampden County.* — Agawam, \$20,206.88; Blandford, \$24,625.37; Brimfield, \$7,314.67; Chester, \$20,316.60; Chicopee, \$19,295.19; East Longmeadow, \$3,657.03; Granville, \$24,368.38; Hampden, \$7,436.06; Holland, \$6,287.39; Holyoke, \$29,256.65; Ludlow, \$26,763.19; Monson, \$3,924.34; Montgomery, \$3,657.07; Palmer, \$12,174.97; Russell, \$4,266.59; Southwick, \$11,780.52; Springfield, \$9,128.91; Tolland, \$4,876.10; Wales, \$2,789.28; Westfield, \$28,729.01; West Springfield, \$20,582.81; Wilbraham, \$7,880.32.

*Hampshire County.* — Amherst, \$12,068.28; Belchertown, \$31,401.80; Chesterfield, \$21,550.50; Cummington, \$6,028.08; Easthampton, \$13,939.84; Enfield, \$3,017.08; Goshen, \$4,656.67; Granby, \$7,314.15; Greenwich, \$2,438.05; Hadley, \$12,647.15; Hatfield, \$2,438.05; Huntington, \$2,438.03; Middlefield, \$12,534.95; Northampton, \$6,095.12; Pelham, \$9,153.71; Plainfield, \$11,282.40; Southampton, \$1,219.02; South Hadley, \$25,815.99; Ware, \$7,314.15; Westhampton, \$1,828.54; Williamsburg, \$6,613.62; Worthington, \$13,885.28.

*Middlesex County.* — Acton, \$9,142.69; Arlington, \$14,720.69; Ashby, \$1,218.98; Ashland, \$5,679.24; Ayer, \$10,038.94; Bedford, \$5,933.04; Billerica, \$11,532.41; Boxborough, \$3,192.88; Burlington, \$9,504.78; Carlisle, \$10,638.99; Chelmsford, \$8,531.64; Concord, \$16,496.90; Dunstable, \$4,570.99; Framingham, \$15,489.08; Groton, \$12,790.36; Holliston, \$21,869.29; Hopkinton, \$7,313.84; Hudson, \$4,588.24; Lexington, \$10,550.83; Lincoln, \$6,887.49; Littleton, \$4,864.94;



Lowell, \$15,056.67; Malden, \$16,647.99; Marlboro, \$15,299.28; Melrose, \$11,213.79; Natick, \$4,871.16; North Reading, \$6,095.10; Pepperell, \$9,749.30; Reading, \$4,876.10; Sherborn, \$15,511.18; Shirley, \$10,422.10; Stoneham, \$13,160.44; Stow, \$1,828.54; Sudbury, \$3,657.00; Tewksbury, \$9,752.20; Townsend, \$8,386.92; Tyngsboro, \$9,746.86; Wakefield, \$452.03; Waltham, \$1,617.63; Watertown, \$1,021.83; Wayland, \$14,974.27; Westford, \$16,306.02; Weston, \$2,438.10; Wilmington, \$8,059.44; Woburn, \$8,264.21.

*Nantucket County.* — Nantucket, \$11,889.89.

*Norfolk County.* — Avon, \$8,261.28; Bellingham, \$4,382.70; Canton, \$13,181.92; Dedham, \$1,029.60; Dover, \$10,628.31; Foxboro, \$16,557.68; Franklin, \$7,957.73; Holbrook, \$6,347.60; Medway, \$23,138.23; Millis, \$14,889.58; Milton, \$14,336.76; Needham, \$17,895.09; Norfolk, \$12,231.85; Norwood, \$6,896.57; Plainville, \$8,074.24; Randolph, \$3,124.26; Sharon, \$13,754.10; Stoughton, \$6,277.46; Westwood, \$14,261.10; Wrentham, \$1,828.54.

*Plymouth County.* — Bridgewater, \$7,381.45; Carver, \$6,680.49; East Bridgewater, \$35,830.44; Halifax, \$19,289.44; Hanover, \$289.34; Hanson, \$14,103.70; Hingham, \$22,135.32; Kingston, \$7,266.51; Marshfield, \$8,278.91; Middleborough, \$12,953.71; Pembroke, \$13,287.30; Plympton, \$31,144.35; Rochester, \$9,032.98; Rockland, \$15,357.62; Wareham, \$3,136.65; West Bridgewater, \$4,317.49.

*Worcester County.* — Ashburnham, \$8,646.76; Athol, \$1,908.46; Barre, \$454.57; Berlin, \$6,815.30; Blackstone, \$4,292.26; Bolton, \$4,834.15; Boylston, \$7,314.09; Brookfield, \$9,917.91; Charlton, \$8,564.95; Dana, \$4,998.00; Fitchburg, \$22,073.42; Gardner, \$7,599.04; Grafton, \$1,615.63; Hardwick, \$4,512.58; Harvard, \$13,780.22; Holden, \$2,391.98; Hubbardston, \$11,824.29; Leicester, \$9,380.54; Lunenburg, \$1,822.84; Mendon, \$4,188.40; Milford, \$11,940.43; Millbury, \$2,402.67; Millville, \$7,782.72; New Braintree, \$5,426.43; North Brookfield, \$3,552.41; Northborough, \$3,374.80; Northbridge, \$6,343.23; Oakham, \$5,400.95; Oxford, \$604.91; Paxton, \$8,914.89; Petersham, \$4,935.84; Phillipston, \$6,762.95; Princeton, \$9,238.58; Royalston, \$8,164.10; Rutland, \$8,048.37; Southborough, \$2,660.03; Spencer, \$6,863.06; Sterling, \$31,344.51; Sturbridge, \$2,438.05; Sutton, \$8,864.38; Templeton, \$3,377.12; Upton, \$5,649.03; Uxbridge, \$1,423.62; Warren, \$3,636.30; West Boylston, \$4,600.66; West Brookfield, \$3,535.92; Westborough, \$23,233.05; Westminster, \$7,387.14; Winchendon, \$8,345.36.

#### REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns: —

Counties and Towns	Miles of Road	Allotments	
	State	Town	
<i>Barnstable County:</i>			
Brewster . . . . .	40	\$4,000 00	\$4,000 00
Dennis . . . . .	78	7,800 00	7,800 00
Eastham . . . . .	41	4,100 00	3,075 00
Mashpee . . . . .	27	2,700 00	2,025 00
Sandwich . . . . .	67	6,700 00	5,025 00
Truro . . . . .	28	2,800 00	2,100 00
Wellfleet . . . . .	35	3,500 00	3,500 00
Yarmouth . . . . .	51	5,100 00	7,650 00
<i>Berkshire County:</i>			
Alford . . . . .	19	1,900 00	760 00
Becket . . . . .	58	5,800 00	2,320 00
Cheshire . . . . .	42	4,200 00	4,200 00
Clarksburg . . . . .	14	1,400 00	2,100 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
<i>Berkshire County — Con.</i>			
Egremont . . . . .	32	3,200 00	2,400 00
Florida . . . . .	43	4,300 00	3,225 00
Hancock . . . . .	30	3,000 00	1,500 00
Hinsdale . . . . .	35	3,500 00	2,625 00
Lanesborough . . . . .	41	4,100 00	3,075 00
Monterey . . . . .	52	5,200 00	2,080 00
Mount Washington . . . . .	20	2,000 00	500 00
New Ashford . . . . .	9	900 00	360 00
New Marlborough . . . . .	85	8,500 00	3,400 00
Otis . . . . .	48	4,800 00	1,200 00
Peru . . . . .	37	3,700 00	555 00
Richmond . . . . .	34	3,400 00	1,700 00
Sandisfield . . . . .	79	7,900 00	1,185 00
Savoy . . . . .	56	5,600 00	840 00
Sheffield . . . . .	77	7,700 00	3,850 00
Tyringham . . . . .	25	2,500 00	1,250 00
Washington . . . . .	51	5,100 00	765 00
West Stockbridge . . . . .	36	3,600 00	2,700 00
Windsor . . . . .	66	6,600 00	990 00
<i>Bristol County:</i>			
Berkley . . . . .	42	4,200 00	2,100 00
Freetown . . . . .	47	4,700 00	4,700 00
Norton . . . . .	55	5,500 00	6,875 00
Raynham . . . . .	45	4,500 00	4,500 00
Rehoboth . . . . .	109	10,900 00	5,450 00
Swansea . . . . .	55	5,500 00	8,250 00
<i>Dukes County:</i>			
Chilmark . . . . .	14	\$1,400 00	\$1,400 00
West Tisbury . . . . .	13	1,300 00	1,625 00
<i>Essex County:</i>			
Boxford . . . . .	52	5,200 00	2,600 00
Essex . . . . .	21	2,100 00	3,150 00
Georgetown . . . . .	34	3,400 00	4,250 00
Groveland . . . . .	29	2,900 00	4,350 00
Merrimac . . . . .	31	3,100 00	4,650 00
Middleton . . . . .	30	3,000 00	3,750 00
Newbury . . . . .	36	3,600 00	5,400 00
Rowley . . . . .	31	3,100 00	3,875 00
Topsfield . . . . .	38	3,800 00	5,700 00
West Newbury . . . . .	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield . . . . .	80	8,000 00	3,200 00
Bernardston . . . . .	40	4,000 00	3,000 00
Buckland . . . . .	45	4,500 00	6,750 00
Charlemont . . . . .	49	4,900 00	3,675 00
Colrain . . . . .	84	8,400 00	4,200 00
Conway . . . . .	73	7,300 00	1,825 00
Gill . . . . .	36	3,600 00	2,700 00
Hawley . . . . .	49	4,900 00	735 00
Heath . . . . .	53	5,300 00	795 00
Leverett . . . . .	38	3,800 00	1,520 00
Leyden . . . . .	40	4,000 00	600 00
Monroe . . . . .	18	1,800 00	2,700 00
Northfield . . . . .	66	6,600 00	4,950 00
New Salem . . . . .	64	6,400 00	1,600 00
Rowe . . . . .	41	4,100 00	2,050 00



Counties and Towns	Miles of Road	Allotments	
	State	Town	
<i>Franklin County — Con.</i>			
Shelburne . . . . .	48	4,800 00	6,000 00
Shutesbury . . . . .	40	4,000 00	1,000 00
Sunderland . . . . .	34	3,400 00	3,400 00
Warwick . . . . .	55	5,500 00	1,375 00
Wendell . . . . .	48	4,800 00	2,400 00
Whately . . . . .	40	4,000 00	3,000 00
<i>Hampden County:</i>			
Blandford . . . . .	83	8,300 00	2,075 00
Brimfield . . . . .	59	5,900 00	2,950 00
Chester . . . . .	66	6,600 00	4,950 00
Granville . . . . .	73	7,300 00	1,825 00
Hampden . . . . .	34	3,400 00	1,700 00
Holland . . . . .	30	3,000 00	450 00
Monson . . . . .	101	10,100 00	10,100 00
Montgomery . . . . .	27	2,700 00	675 00
Southwick . . . . .	50	5,000 00	3,750 00
Tolland . . . . .	41	4,100 00	615 00
Wales . . . . .	25	2,500 00	1,250 00
Wilbraham . . . . .	43	4,300 00	6,450 00
<i>Hampshire County:</i>			
Belchertown . . . . .	115	11,500 00	4,600 00
Chesterfield . . . . .	59	5,900 00	885 00
Cummington . . . . .	49	4,900 00	1,225 00
Enfield . . . . .	37	3,700 00	1,480 00
Goshen . . . . .	28	2,800 00	1,120 00
Hadley . . . . .	58	5,800 00	7,250 00
Granby . . . . .	48	4,800 00	2,400 00
Greenwich . . . . .	39	3,900 00	975 00
Huntington . . . . .	40	4,000 00	4,000 00
Hatfield . . . . .	46	4,600 00	6,900 00
Middlefield . . . . .	38	3,800 00	570 00
Pelham . . . . .	39	3,900 00	1,950 00
Plainfield . . . . .	49	4,900 00	735 00
Prescott . . . . .	39	3,900 00	585 00
Southampton . . . . .	56	5,600 00	2,240 00
Westhampton . . . . .	50	5,000 00	750 00
Williamsburg . . . . .	43	4,300 00	4,300 00
Worthington . . . . .	73	7,300 00	1,095 00
<i>Middlesex County:</i>			
Acton . . . . .	58	5,800 00	7,250 00
Ashby . . . . .	56	5,600 00	2,800 00
Ashland . . . . .	38	3,800 00	5,700 00
Boxborough . . . . .	23	2,300 00	920 00
Burlington . . . . .	33	3,300 00	4,950 00
Carlisle . . . . .	43	4,300 00	1,720 00
Dunstable . . . . .	37	3,700 00	925 00
Holliston . . . . .	50	5,000 00	7,500 00
Hopkinton . . . . .	66	6,600 00	6,600 00
Lincoln . . . . .	40	4,000 00	6,000 00
Littleton . . . . .	42	4,200 00	5,250 00
North Reading . . . . .	31	3,100 00	4,650 00
Pepperell . . . . .	68	6,800 00	8,500 00
Sherborn . . . . .	43	4,300 00	4,300 00
Shirley . . . . .	46	4,600 00	5,750 00
Stow . . . . .	45	4,500 00	3,375 00
Sudbury . . . . .	62	6,200 00	6,200 00

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Middlesex County — Con.</i>			
Tewksbury . . . . .	56	5,600 00	7,000 00
Townsend . . . . .	70	7,000 00	5,250 00
Tyngsborough . . . . .	40	4,000 00	3,000 00
<i>Norfolk County:</i>			
Bellingham . . . . .	42	4,200 00	6,300 00
Medfield . . . . .	40	4,000 00	6,000 00
Medway . . . . .	44	4,400 00	6,600 00
Millis . . . . .	39	3,900 00	5,850 00
Norfolk . . . . .	40	4,000 00	4,000 00
Plainville . . . . .	34	3,400 00	4,250 00
Wrentham . . . . .	43	4,300 00	6,450 00
<i>Plymouth County:</i>			
Carver . . . . .	67	6,700 00	6,700 00
Halifax . . . . .	33	3,300 00	3,300 00
Hanson . . . . .	36	3,600 00	5,400 00
Lakeville . . . . .	45	4,500 00	3,375 00
Norwell . . . . .	47	4,700 00	4,700 00
Pembroke . . . . .	47	4,700 00	5,875 00
Plympton . . . . .	30	3,000 00	1,500 00
Rochester . . . . .	49	4,900 00	3,675 00
West Bridgewater . . . . .	39	3,900 00	5,850 00
<i>Worcester County:</i>			
Ashburnham . . . . .	75	7,500 00	5,625 00
Barre . . . . .	120	12,000 00	9,000 00
Berlin . . . . .	39	3,900 00	2,925 00
Bolton . . . . .	53	5,300 00	2,650 00
Boylston . . . . .	41	4,100 00	2,050 00
Brookfield . . . . .	37	3,700 00	3,700 00
Charlton . . . . .	115	11,500 00	4,700 00
Dana . . . . .	43	4,300 00	1,720 00
Douglas . . . . .	70	7,000 00	5,250 00
East Brookfield . . . . .	19	1,900 00	2,375 00
Harvard . . . . .	56	5,600 00	5,600 00
Hardwick . . . . .	96	9,600 00	7,200 00
Holden . . . . .	77	7,700 00	9,625 00
Hubbardston . . . . .	75	7,500 00	1,875 00
Lancaster . . . . .	58	5,800 00	7,250 00
Leicester . . . . .	56	5,600 00	8,400 00
Lunenburg . . . . .	67	6,700 00	5,025 00
Mendon . . . . .	36	3,600 00	2,700 00
New Braintree . . . . .	49	4,900 00	1,225 00
North Brookfield . . . . .	69	6,900 00	6,900 00
Northborough . . . . .	47	4,700 00	4,700 00
Oakham . . . . .	45	4,500 00	1,125 00
Oxford . . . . .	66	6,600 00	8,250 00
Paxton . . . . .	29	2,900 00	2,175 00
Petersham . . . . .	71	7,100 00	5,325 00
Phillipston . . . . .	41	4,100 00	1,025 00
Princeton . . . . .	72	7,200 00	2,880 00
Royalston . . . . .	67	6,700 00	2,680 00
Rutland . . . . .	68	6,800 00	3,400 00
Southborough . . . . .	48	4,800 00	7,200 00
Spencer . . . . .	100	10,000 00	12,500 00
Sterling . . . . .	72	7,200 00	5,400 00
Sturbridge . . . . .	66	6,600 00	3,300 00
Sutton . . . . .	84	8,400 00	4,200 00



Counties and Towns	Miles of Road		Allotments State      Town	
<i>Worcester County — Con.</i>				
Templeton . . . . .	62	6,200 00	7,700 00	
Upton . . . . .	60	6,000 00	4,500 00	
Warren . . . . .	60	6,000 00	9,000 00	
West Boylston . . . . .	35	3,500 00	4,375 00	
West Brookfield . . . . .	53	5,300 00	3,975 00	
Westborough . . . . .	57	5,700 00	8,550 00	
Westminster . . . . .	77	7,700 00	3,850 00	

#### EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various counties were: —

Barnstable, \$39,103.74	Hampden, \$68,811.00
Berkshire, \$116,960.91	Hampshire, \$97,917.10
Bristol, \$38,296.95	Middlesex, \$102,739.99
Dukes \$3,102.81	Norfolk, \$31,884.17
Essex, \$19,151.74	Plymouth, \$43,641.80
Franklin, \$115,296.83	Worcester, \$268,965.42
	Total, \$945,872.46

Details of the foregoing expenditures follow: —

*Barnstable County.* — Brewster, \$4,285.35; Dennis, \$8,257.17; Eastham, \$4,404.32; Mashpee, \$2,820.74; Sandwich, \$7,177.69; Truro, \$3,102.81; Wellfleet, \$3,804.74; Yarmouth, \$5,250.92.

*Berkshire County.* — Alford, \$2,061.31; Becket, \$7,023.05; Cheshire, \$4,519.08; Clarksburg, \$1,326.27; Egremont, \$3,396.89; Florida, \$5,857.67; Hancock, \$3,113.07; Hinsdale, \$3,735.16; Lanesborough, \$4,929.33; Monterey, \$5,970.36; Mt. Washington, \$3,037.72; New Ashford, \$247.99; New Marlborough, \$10,228.89; Otis, \$5,058.47; Peru, \$5,130.59; Richmond, \$3,921.35; Sandisfield, \$9,132.54; Savoy, \$6,051.09; Sheffield, \$13,374.64; Tyringham, \$2,371.44; Washington, \$5,954.66; West Stockbridge, \$3,419.28; Windsor, \$7,100.06.

*Bristol County.* — Berkley, \$4,556.58; Freetown, \$5,099.02; Norton, \$5,966.95; Raynham, \$4,882.05; Rehoboth, \$11,825.40; Swansea, \$5,966.95.

*Dukes County.* — Chilmark, \$1,588.29; West Tisbury, \$1,514.52.

*Essex County.* — Boxford, \$4,656.92; Groveland, \$2,603.76; Merrimac, \$3,254.70; Middleton, \$2,893.06; Rowley, \$2,448.08; Topsfield, \$3,295.22.

*Franklin County.* — Ashfield, \$9,302.58; Bernardston, \$4,366.39; Buckland, \$5,207.49; Charlemont, \$5,451.60; Colrain, \$8,814.81; Conway, \$8,082.50; Gill, \$3,905.64; Hawley, \$5,316.01; Heath, \$5,749.97; Leverett, \$4,122.62; Leyden, \$4,339.60; Monroe, \$1,952.82; New Salem, \$7,295.95; Northfield, \$7,323.07; Rowe, \$4,692.19; Shelburne, \$5,532.99; Shutesbury, \$4,339.60; Sunderland, \$3,607.29; Warwick, \$5,966.88; Wendell, \$5,587.23; Whately, \$4,339.60.

*Hampden County.* — Blandford, \$9,093.46; Brimfield, \$6,130.00; Chester, \$6,697.45; Granville, \$7,919.76; Hampden, \$3,851.39; Holland, \$3,834.52; Monson, \$10,372.89; Montgomery, \$2,610.57; Southwick, \$5,451.62; Tolland, \$5,492.43; Wales, \$2,691.84; Wilbraham, \$4,665.07.

*Hampshire County.* — Belchertown, \$12,530.58; Chesterfield, \$6,238.17; Cummington, \$5,316.01; Enfield, \$4,041.25; Goshen, \$3,037.72; Granby, \$5,207.51; Greenwich, \$4,231.11; Hadley, \$6,238.17; Hatfield, \$4,990.54; Huntington, \$4,324.26; Middlefield, \$3,932.53; Pelham, \$4,095.50; Plainfield, \$5,343.13; Prescott, \$3,715.78; Southampton, \$6,075.43; Westhampton, \$6,102.56; Williamsburg, \$4,556.58; Worthington, \$7,940.27.

*Middlesex County.* — Acton, \$6,292.42; Ashby, \$6,075.43; Ashland, \$4,122.62; Boxborough, \$2,495.27; Burlington, \$3,580.17; Carlisle, \$4,665.07; Dunstable, \$4,014.13; Holliston, \$5,424.50; Hopkinton, \$7,160.34; Lincoln, \$4,339.60; Littleton, \$4,556.58; North Reading, \$3,363.19; Pepperell, \$7,377.31; Sherborn, \$4,665.07; Shirley, \$4,990.54; Stow, \$4,882.05; Sudbury, \$6,726.37; Tewksbury, \$6,075.43; Townsend, \$7,594.30; Tyngsborough, \$4,339.60.

*Norfolk County.* — Bellingham, \$4,556.57; Medfield, \$4,339.60; Medway, \$6,063.56; Millis, \$4,231.11; Norfolk, \$4,339.60; Plainville, \$3,688.66; Wrentham, \$4,665.07.

*Plymouth County.* — Carver, \$7,133.13; Halifax, \$3,992.75; Hanson, \$3,732.24; Lakeville, \$5,018.06; Norwell, \$5,792.41; Pembroke, \$4,825.37; Plympton, \$3,275.33; Rochester, \$5,714.37; West Bridgewater, \$4,158.14.

*Worcester County.* — Ashburnham, \$8,167.44; Barre, \$13,007.04; Berlin, \$4,231.11; Bolton, \$5,749.97; Boylston, \$4,448.09; Brookfield, \$4,185.51; Charlton, \$11,605.08; Dana, \$4,665.07; Douglas, \$7,267.74; East Brookfield, \$2,061.31; Hardwick, \$10,290.18; Harvard, \$6,075.43; Holden, \$8,249.11; Hubbardston, \$8,618.94; Lancaster, \$6,292.42; Leicester, \$6,075.44; Lunenburg, \$7,268.83; Mendon, \$3,905.64; New Braintree, \$5,316.01; North Brookfield, \$7,625.15; Northborough, \$5,099.03; Oakham, \$4,553.93; Oxford, \$7,074.35; Paxton, \$3,247.06; Petersham, \$7,702.78; Phillipston, \$4,751.08; Princeton, \$7,811.28; Royalston, \$7,268.82; Rutland, \$7,377.32; Southborough, \$5,207.52; Spencer, \$9,438.62; Sterling, \$7,573.43; Sturbridge, \$6,459.52; Sutton, \$9,106.80; Templeton, \$6,760.41; Upton, \$4,354.71; Warren, \$6,200.89; West Boylston, \$3,797.15; West Brookfield, \$5,802.64; Westborough, \$5,918.84; Westminster, \$8,353.73.

#### CONTRACTS FOR THE CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS IN ANTICIPATION OF APPROPRIATIONS

In Nov., 1931, preparations were made for advertising contracts under the provisions of Section 27, Chapter 29, General Laws, as amended, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding \$2,370,000 for construction and \$1,300,000 for reconstruction, these amounts being twenty-five per cent of the appropriations of \$9,480,000 and \$5,200,000, respectively, for the fiscal year ending Nov. 30, 1931. The construction appropriation includes the sum of \$7,000,000 under the provisions of Chapter 122 of the Acts of 1931. The making of these contracts as aforesaid was approved by the Governor and Council Nov. 4, 1931.

#### HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

In accordance with the provisions of Chapter 420, Acts of 1930, as amended by Chapter 454, Acts of 1931, the following contracts were entered into: —

*Revere.* — Dec. 17, 1930, contract made with M. McDonough Co., of Saugus, for constructing a steel and concrete bridge with approaches in the vicinity of the intersection of Broadway and Revere Beach Parkway in Revere, the surface consisting of bituminous macadam. The proposal amounted to \$151,556.35. Work completed Aug. 15, 1931. Expenditure during 1931, \$164,556.25.

*Canton-Dedham-Westwood.* — July 21, 1931, contract made with the Lee Construction Co., Inc., of Boston, for constructing two bridges over the New York, New Haven & Hartford Railroad Company in Westwood, and about 20,854 feet of State highway in Canton, Dedham and Westwood, the surface except over the bridges consisting of bituminous macadam, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$326,097.40. Work about one-third completed. Expenditure during 1931, \$165,532.99.

*Dedham-Westwood-Needham.* — Oct. 13, 1931, contract made with the John Iafolla Construction Company, of Dedham, for constructing about 18,227 feet of State highway in Dedham, Westwood and Needham, the surface consisting of bituminous macadam. The proposal amounted to \$331,155.20. Work just commenced. Expenditure during 1931, \$18,595.25.

*Boston.* — Nov. 3, 1931, contract made with John F. Kennedy & Company, of Somerville, for constructing a bridge at Morton Street, and about 11,142 feet of highway on Canterbury Street, new location and Lawn Street, the surface over the bridge consisting of bituminous concrete, the surface of the highway consisting of sections of bituminous macadam and sheet asphalt. The proposal amounted to \$382,199.55. Work just commenced. Expenditure during 1931, \$9,054.28.

*Brookline-Boston.* — Nov. 24, 1931, contract made with M. McDonough Co., of Saugus, for constructing about 14,330 feet of parkway or boulevard in Brookline and Boston, the surface consisting of sections of bituminous macadam and sheet asphalt. The proposal amounted to \$465,260.65. Work not yet commenced.



DISTRIBUTION OF A CERTAIN PROPORTION OF THE GAS TAX, AS PROVIDED UNDER  
CHAPTER 122, SECT. 4, ACTS OF 1931

Distribution as follows:—

Abington, \$2,614.76; Acushnet, \$1,542.71; Adams, \$5,386.41; Agawam, \$3,320.75; Amesbury, \$5,098.79; Amherst, \$4,052.88; Andover, \$7,635.10; Arlington, \$19,741.45; Athol, \$4,523.54; Attleboro, \$10,066.83; Auburn, \$2,274.84; Avon, \$889.02; Ayer, \$1,438.12; Barnstable, \$7,347.48; Belmont, \$12,341.68; Beverly, \$16,708.33; Billerica, \$3,765.26; Blackstone, \$1,228.94; Boston, \$678,452.26; Bourne, \$3,163.86; Braintree, \$8,445.68; Bridgewater, \$2,823.94; Brockton, \$29,991.32; Brookline, \$53,498.03; Cambridge, \$68,846.68; Canton, \$3,582.22; Chatham, \$1,778.04; Chelmsford, \$3,425.34; Chelsea, \$22,774.58; Chicopee, \$20,813.50; Clinton, \$6,458.46; Cohasset, \$3,425.34; Concord, \$3,320.75; Dalton, \$2,562.47; Danvers, \$4,837.31; Dartmouth, \$4,418.95; Dedham, \$8,733.30; Deerfield, \$1,830.33; Dighton, \$1,778.04; Dover, \$1,281.23; Dracut, \$2,065.66; Dudley, \$1,830.33; Duxbury, \$2,222.55; E. Bridgewater, \$2,091.81; E. Longmeadow, \$1,359.68; Easthampton, \$5,595.59; Easton, \$2,431.73; Edgartown, \$1,568.86; Erving, \$1,045.91; Everett, \$25,441.63; Fairhaven, \$4,758.87; Fall River, \$56,374.27; Falmouth, \$6,902.97; Fitchburg, \$22,068.59; Foxborough, \$2,222.55; Framingham, \$12,943.07; Franklin, \$3,582.22; Gardner, \$9,988.39; Gay Head, \$52.30; Gloucester, \$13,649.06; Gosnold, \$418.36; Grafton, \$2,039.51; Great Barrington, \$4,262.06; Greenfield, \$10,615.93; Groton, \$1,647.30; Hamilton, \$1,908.78; Hanover, \$1,333.53; Harwich, \$1,804.19; Haverhill, \$24,395.73; Hingham, \$4,915.75; Holbrook, \$1,464.27; Holyoke, \$42,149.96; Hopedale, \$2,117.96; Hudson, \$3,268.45; Hull, \$5,543.30; Ipswich, \$2,928.53; Kingston, \$1,542.71; Lawrence, \$49,052.93; Lee, \$2,196.40; Lenox, \$2,300.99; Leominster, \$10,328.31; Lexington, \$6,458.46; Longmeadow, \$3,529.93; Lowell, \$48,843.75; Ludlow, \$3,843.70; Lynn, \$50,830.97; Lynnfield, \$1,098.20; Malden, \$25,807.70; Manchester, \$4,262.06; Mansfield, \$3,137.71; Marblehead, \$6,615.35; Marion, \$1,621.15; Marlborough, \$6,929.12; Marshfield, \$2,144.11; Mattapoisett, \$1,281.23; Maynard, \$3,006.98; Medford, \$26,749.01; Melrose, \$12,550.86; Methuen, \$8,576.42; Middleborough, \$3,634.52; Milford, \$5,883.21; Millbury, \$2,353.29; Millville, \$732.13; Milton, \$12,707.74; Montague, \$5,151.08; Nahant, \$1,699.60; Nantucket, \$3,660.67; Natick, \$6,196.99; Needham, \$7,086.00; New Bedford, \$67,591.59; Newburyport, \$5,569.44; Newton, \$51,092.45; North Adams, \$11,374.21; North Andover, \$3,634.52; No. Attleboro, \$4,235.91; Northampton, \$11,583.40; Northbridge, \$4,549.69; Norwood, \$9,962.24; Oak Bluffs, \$1,568.86; Orange, \$2,379.43; Orleans, \$1,255.09; Palmer, \$4,575.83; Peabody, \$9,648.47; Pittsfield, \$24,787.94; Plymouth, \$10,432.90; Provincetown, \$1,699.60; Quincy, \$45,967.51; Randolph, \$2,248.70; Reading, \$5,543.30; Revere, \$14,904.14; Rockland, \$3,556.08; Rockport, \$2,065.66; Russell, \$1,647.30; Salem, \$21,127.28; Salisbury, \$1,307.38; Saugus, \$5,203.38; Scituate, \$4,131.32; Seekonk, \$1,699.60; Sharon, \$2,196.40; Shrewsbury, \$2,902.39; Somerset, \$4,209.77; Somerville, \$45,183.09; South Hadley, \$3,765.26; Southbridge, \$5,700.18; Springfield, \$109,297.05; Stockbridge, \$1,830.33; Stoneham, \$4,706.57; Stoughton, \$3,712.96; Swampscott, \$8,707.16; Taunton, \$16,106.93; Tisbury, \$1,882.63; Uxbridge, \$3,085.42; Wakefield, \$8,445.68; Walpole, \$5,386.41; Waltham, \$20,525.88; Ware, \$3,059.27; Wareham, \$4,392.80; Watertown, \$19,427.68; Wayland, \$1,882.63; Webster, \$5,020.34; Wellesley, \$10,668.23; Wenham, \$1,202.79; W. Springfield, \$10,642.08; Westfield, \$8,811.75; Westford, \$1,778.04; Weston, \$2,954.68; Westport, \$2,300.99; Westwood, \$1,490.41; Weymouth, \$15,008.73; Whitman, \$3,399.19; Williamstown, \$2,614.76; Wilmington, \$1,464.27; Winchendon, \$2,588.61; Winchester, \$10,197.57; Winthrop, \$8,968.63; Woburn, \$8,053.47; Worcester, \$124,044.30. Total, \$2,500,000.00.

ADDITIONAL AMOUNTS PAID FROM GAS TAX IN ACCORDANCE WITH PROVISIONS  
OF CHAPTER 122, SECTION 4, ACTS OF 1931

Distribution to towns eligible for aid under the provisions of section 26, chapter 81, Revised Laws, as amended as follows:—

Acton, \$1,450.00; Alford, \$475.00; Ashburnham, \$1,875.00; Ashby, \$1,400.00; Ashfield, \$2,000.00; Ashland, \$950.00; Barre, \$3,000.00; Becket, \$1,450.00; Bedford, \$875.00; Belchertown, \$2,875.00; Bellingham, \$1,050.00; Berkley,



\$1,050.00; Berlin, \$975.00; Bernardston, \$1,000.00; Blandford, \$2,075.00; Bolton, \$1,325.00; Boxborough, \$575.00; Boxford, \$1,300.00; Boylston, \$1,025.00; Brewster, \$1,000.00; Brimfield, \$1,475.00; Brookfield, \$925.00; Buckland, \$1,125.00; Burlington, \$825.00; Carlisle, \$1,075.00; Carver, \$1,675.00; Charlemont, \$1,225.00; Charlton, \$2,875.00; Cheshire, \$1,050.00; Chester, \$1,650.00; Chesterfield, \$1,475.00; Chilmark, \$350.00; Clarksburg, \$350.00; Cclrain, \$2,100.00; Conway, \$1,825.00; Cummington, \$1,225.00; Dana, \$1,075.00; Dennis, \$1,950.00; Douglas, \$1,750.00; Dunstable, \$925.00; E. Brookfield, \$475.00; Eastham, \$1,025.00; Egremont, \$800.00; Enfield, \$925.00; Essex, \$525.00; Florida, \$1,075.00; Freetown, \$1,175.00; Georgetown, \$850.00; Gill, \$900.00; Goshen, \$700.00; Granby, \$1,200.00; Granville, \$1,825.00; Greenwich, \$975.00; Groveland, \$725.00; Hadley, \$1,450.00; Halifax, \$825.00; Hampden, \$850.00; Hancock, \$750.00; Hanson, \$900.00; Hardwick, \$2,400.00; Harvard, \$1,400.00; Hatfield, \$1,150.00; Hawley, \$1,225.00; Heath, \$1,325.00; Hinsdale, \$875.00; Holden, \$1,925.00; Holland, \$750.00; Holliston, \$1,250.00; Hopkinton, \$1,650.00; Hubbardston, \$1,875.00; Huntington, \$1,000.00; Lakeville, \$1,125.00; Lancaster, \$1,450.00; Lanesborough, \$1,025.00; Leicester, \$1,400.00; Leverett, \$950.00; Leyden, \$1,000.00; Lincoln, \$1,000.00; Littleton, \$1,050.00; Lunenburg, \$1,675.00; Mashpee, \$675.00; Medfield, \$1,000.00; Medway, \$1,100.00; Mendon, \$900.00; Merrimac, \$775.00; Middlefield, \$950.00; Middleton, \$750.00; Millis, \$975.00; Monroe, \$450.00; Monson, \$2,525.00; Monterey, \$1,300.00; Montgomery, \$675.00; Mt. Washington, \$500.00; New Ashford, \$225.00; New Braintree, \$1,225.00; N. Marlborough, \$2,125.00; New Salem, \$1,600.00; Newbury, \$900.00; Norfolk, \$1,000.00; No. Brookfield, \$1,725.00; No. Reading, \$775.00; Northborough, \$1,175.00; Northfield, \$1,650.00; Norton, \$1,400.00; Norwell, \$1,175.00; Oakham, \$1,125.00; Otis, \$1,200.00; Oxford, \$1,650.00; Paxton, \$725.00; Pelham, \$975.00; Pembroke, \$1,175.00; Pepperell, \$1,700.00; Peru, \$925.00; Petersham, \$1,775.00; Phillipston, \$1,025.00; Plainfield, \$1,225.00; Plainville, \$850.00; Plympton, \$750.00; Prescott, \$975.00; Princeton, \$1,800.00; Raynham, \$1,125.00; Rehoboth, \$2,725.00; Richmond, \$850.00; Rochester, \$1,225.00; Rowe, \$1,025.00; Rowley, \$775.00; Royston, \$1,675.00; Rutland, \$1,700.00; Sandisfield, \$1,975.00; Sandwich, \$1,675.00; Savoy, \$1,400.00; Sheffield, \$1,925.00; Shelburne, \$1,200.00; Sherborn, \$1,075.00; Shirley, \$1,150.00; Shutesbury, \$1,000.00; Southampton, \$1,400.00; Southborough, \$1,200.00; Southwick, \$1,250.00; Spencer, \$2,175.00; Sterling, \$1,800.00; Stow, \$1,125.00; Sturbridge, \$1,650.00; Sudbury, \$1,550.00; Sunderland, \$850.00; Sutton, \$2,100.00; Swansea, \$1,375.00; Templeton, \$1,550.00; Tewksbury, \$1,400.00; Tolland, \$1,025.00; Topsfield, \$950.00; Townsend, \$1,750.00; Truro, \$700.00; Tyngsborough, \$1,000.00; Tyringham, \$625.00; Upton, \$1,500.00; Wales, \$625.00; Warren, \$1,500.00; Warwick, \$1,375.00; Washington, \$1,275.00; Wellfleet, \$875.00; Wendell, \$1,200.00; W. Boylston, \$875.00; W. Bridgewater, \$975.00; W. Brookfield, \$1,325.00; W. Newbury, \$925.00; W. Stockbridge, \$900.00; W. Tisbury, \$325.00; Westborough, \$1,425.00; Westhampton, \$1,250.00; Westminster, \$1,925.00; Whately, \$1,000.00; Wilbraham, \$1,075.00; Williamsburg, \$1,075.00; Windsor, \$1,650.00; Worthington, \$1,825.00; Wrentham, \$1,075.00; Yarmouth, \$1,275.00. Total, \$220,750.00.

#### PERMITS TO COMMON CARRIERS OF PASSENGERS BY MOTOR VEHICLES

In accordance with sections 48A and 48B, chapter 280, Acts of 1925, which amends chapter 159, General Laws, 72 permits were granted during the year.

No permits were granted after September 6, 1931, when Chapter 409 of the Acts of that year, relieving the Department from jurisdiction in such matters, became effective.

#### THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW (Sections 29-33, chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33, inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reser-



vation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

*Applications, Licenses and Permits.* — Licenses were granted to 30 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 287 applications received for permits for the erection of advertising signs, 222 permits have been granted; and 66 permits were granted on applications filed previous to 1931. Sixty applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 17 applications for permits were cancelled.

Of 3,818 renewal applications sent to those whose permits were to expire June 30, 1931, 2,908 were returned to the Department requesting renewal; and 864 requested that permits be cancelled. The number of renewal applications approved, to be in force, until June 30, 1932, was 2,909. The total number of permits in force Nov. 30, 1931, was 3,031.

*Receipts and Expenditures.* — The total receipts for the year ending Nov. 30, 1931, were \$14,278.20 and the expenditures were \$19,061.97.

*The Removal of Signs.* — The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 30,000 signs during the year in addition to 5,000 removed by other agents of the Department, under authority of section 30-A, chapter 93, General Laws, from within the highways and from private property.

*Injunction.* — On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners, constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the Rules and Regulations for the control and restriction of the billboards, signs and other devices, promulgated under date of Jan. 24, 1924. This injunction is still in force and will be until the case is settled in Court.

*Hearings.* — Hearings were given to officials of Lexington, Winchester, Winthrop, Brookline, Belmont, Cohasset, Norwood.





## CONTRACT PRICES DEC. 1, 1930, TO NOV. 30, 1931

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Gals.)	Concrete Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)			
Abington-Brockton	Corrado & Lepora Const. Co.	\$0 35	-	\$2 75	\$0 75	\$15 00	\$0 07	-
Agawam	Lane Const. Co.	0 25	0 45	2 00	1 25	16 00	0 09	-
Amesbury, Haverhill, Merrimac	P. J. Holland	0 25	-	4 00	0 80	16 00	0 07	7 50
Amherst	Roy M. Wright	0 33	0 29	0 33	0 75	15 00	0 085	-
Andover-No. Reading & Reading	P. J. Holland	0 35	0 35	1 50	0 80	15 00	0 07	7 00
Arlington	G. Rotundi & Son	0 50	-	3 00	1 00	-	0 10	8 00
Ashburnham	A. Pallatto	0 20	-	10 00	0 60	16 00	-	-
Ashby	A. Pallatto	0 25	0 30	15 00	0 60	16 00	0 10	-
Attleboro	Perini & Ampollini	0 30	-	4 00	1 75	16 00	0 07	-
Auburn & Worc.	Carlo Bianchi	0 25	0 20	1 70	0 75	17 00	0 07½	6 50
Avon	Arute Bros.	0 30	-	2 25	0 60	15 00	0 07	-
Barnstable	Lane Const. Corp.	0 10	-	0 10	1 25	20 00	0 15	-
Barnstable	Lane Const. Corp.	0 10	0 10	0 10	0 50	20 00	0 09	-
Barnstable	Lane Const. Corp.	0 34	0 34	0 34	0 70	21 00	0 11	-
Becket	Bertolini Bros.	0 40	0 45	2 50	1 00	16 00	0 09	-
Belchertown	A. H. Newell Co.	0 30	-	1 75	0 85	18 00	0 08½	-
Bellingham, Mendon	G. Bonazolli	0 40	-	2 50	1 00	18 00	0 08	-
Bernardston	Warner & Goodwin	0 26	0 26	4 00	1 00	20 00	0 09	-
Billerica	R. G. Watkins	0 35	-	2 00	0 90	17 00	0 08	-
Blandford	Eng. S. & C. Co.	0 35	0 35	2 00	0 80	20 00	0 10½	-
Boston	J. F. Kennedy Co.	0 50	0 45	6 00	1 00	10 20	0 05	-
Boston-Brookline	McDonough Co.	0 35	0 40	0 35	0 60	15 00	0 07½	-
Bourne	Atwood-Thomas Co.	0 40	0 35	-	-	-	0 20	-
Bourne & Plymouth	A. D. Bridge's Sons	0 38	0 38	0 38	0 50	18 00	0 18	-
Boxford	A. Susi & Co.	0 35	-	2 00	0 80	15 00	0 12	-
Bridgewater	Powers Bros.	0 30	-	5 00	1 00	15 00	0 07	-
Brockton	Powers Bros.	0 30	-	2 00	0 80	15 00	0 07	-
Brookfield	Frank & Frank C. Co.	0 60	-	0 60	0 90	20 00	0 08½	-
Canton-Dedham, Westwood	Lee Const. Co., Inc.	0 29	0 30	2 00	0 70	15 00	0 06½	-
Canton	J. F. Kennedy Co.	0 40	-	2 00	0 80	15 00	0 07	-
Carlisle	A. Pallatto	0 30	0 35	2 00	0 50	15 00	-	-
Charlton	Perini & Ampollini	0 40	-	2 00	0 80	30 00	0 09	-
Cheshire	Lane Const. Corp.	0 40	-	2 00	1 50	18 00	0 09	-
Chester & Huntingdon	Fitchburg Conc. Const. Co.	0 40	0 40	2 00	1 00	18 00	0 09½	-
Chesterfield & Williamsburg	Warner Bros. & Goodwin	0 50	0 50	2 50	1 00	20 00	0 20	-
Chicopee	D. O'Connell's Sons	0 26	-	2 00	0 90	17 50	0 094	-
Chilmark & W. Tisbury	M. F. Roach & Sons	0 35	0 40	0 35	0 70	20 00	0 23	-
Concord	Greenough C. Co.	1 00	1 00	1 00	1 00	-	0 07	-
Duxbury, Kingston, Pembroke	Eastern Contracting Co., Inc.	0 40	0 25	3 00	0 70	18 00	0 08	-
Concord	Greenough Const. Co.	0 40	-	2 50	1 00	15 00	0 07	-
Danvers	J. J. Watkins	0 40	-	1 75	0 70	-	0 10	-
Dedham & Westwood	J. Iafolla Const. Co.	0 40	-	2 25	0 95	18 00	0 08	-
Dedham Westwood, Needham	J. Iafolla Const. Co.	0 30	0 50	1 50	0 90	18 00	0 09	-
Deerfield & Greenfield	D. O'Connell's Sons	0 50	0 30	4 00	1 00	25 00	0 09	-
Dighton	E. L. Canedy	0 60	0 50	2 00	1 00	12 00	0 08	-
E. Bridgewater	D. J. Roach	0 37	0 37	0 37	1 00	18 00	0 15	-
Easton	Arute Bros., Inc.	0 40	0 40	0 40	1 00	20 00	0 08	-
Egremont	Bertolini Bros.	0 85	-	0 85	0 50	16 00	0 09	-
Erving	Lawton Const. Co.	0 29	0 29	0 29	1 00	15 00	0 08½	-
Erving-Gill	Simpson Bros.	-	-	-	-	-	-	-
Erving-Gill	McClintic Marshall	-	-	-	-	-	-	-
Foxboro	Arute Bros.	0 35	-	3 00	0 80	15 00	0 08	-
Foxboro-Wrentham								
Plainville-N. Attleboro	D. V. Frione	0 36	0 36	2 00	0 50	16 00	0 11	7 00
Foxboro-Wrentham								
Walpole-Sharon	State Const. Co.	0 25	0 30	3 50	0 75	16 00	0 08	6 75
Frammingham	B. Perini & Sons	0 40	-	3 00	1 00	17 00	-	7 25
Frammingham-Natick	B. Perini & Sons	0 27	0 32	2 00	0 75	15 00	0 07½	7 50
Frammingham-Southborough	B. Perini & Sons	0 50	0 40	0 50	1 00	15 00	0 06	7 25
Freetown	A. Thomas Const. Co.	0 35	-	2 00	0 80	-	0 13	-
Gardner	Frank & Frank Const. Co.	0 40	0 50	2 50	1 00	18 00	0 10	-

CONTRACT PRICES DEC. 1, 1930, TO NOV. 30, 1931

Broken Stone (ton)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERT (lineal feet)							Wooden Guard Rail (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow (Cu. Yd.)
		CLAY			REINF. CONCRETE								
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.					
\$2 10 1 20	\$0 45 -	- 0 45	\$0 50 -	\$0 75 -	\$0 80 -	\$1 05 -	\$1 50 -	- -	\$0 40 0 50	- 1 70	\$50 00 50 00	\$18 00 16 00	\$0 55 0 55
2 00 2 00	0 40 0 50	0 50 0 40	0 55 0 50	0 60 -	0 80 -	- -	3 00 -	- -	- 0 50	- 1 75	50 00 -	20 00 20 00	0 50 0 40
1 80 2 20	0 40 -	0 60 -	0 60 -	0 80 -	0 80 0 80	1 00 1 20	1 30 -	2 25 -	- -	- 1 75	50 00 45 00	22 00 -	0 45 0 70
- 2 25	0 40 0 60	- -	- -	- -	- -	- -	- 3 50	- 4 00	- 0 50	- -	- -	16 00 16 00	0 35 0 40
2 00 2 60	- 0 35	0 35 0 35	0 40 0 45	- -	- 0 75	- -	- 1 40	4 00 2 25	0 50 -	- -	38 00 55 00	- 17 00	0 32 0 35
2 00 3 75	0 50 0 40	0 35 -	- 0 50	- 0 85	- 1 00	- 1 50	- -	- -	- 0 60	- -	40 00 40 00	25 00 22 00	0 40 0 10
3 75 2 20	0 50 0 45	- -	0 50 0 50	- -	1 00 1 10	- -	- 2 25	- -	0 60 0 70	- -	40 00 65 00	- 24 00	0 10 1 50
2 20 2 35	0 40 -	0 40 0 40	0 50 0 45	- 0 75	1 00 -	- -	2 00 -	3 00 -	0 70 1 50	1 25 -	60 00 50 00	20 00 20 00	0 70 0 40
2 60 2 70	0 45 0 45	- 0 40	- 0 50	- -	1 00 1 55	- -	1 80 -	2 50 -	- 0 60	1 90 1 50	50 00 -	20 00 16 00	0 65 0 26
1 95 2 70	0 48 -	0 36 -	- -	- -	- -	- -	1 30 2 15	2 15 -	- 0 45	- 2 10	50 00 -	- 30 00	0 50 0 50
1 65 1 25	- -	0 30 0 30	0 30 0 40	0 50 0 70	0 50 0 60	1 00 -	1 00 1 40	2 00 2 30	0 50 0 50	- -	30 00 35 00	10 20 20 00	0 50 0 50
- 2 40	- 0 44	- -	0 60 0 50	0 90 -	1 00 0 80	1 40 1 10	- 1 73	- 2 50	0 55 -	- -	60 00 60 00	22 00 15 00	0 50 0 35
2 10 3 00	0 50 0 60	- -	0 45 0 60	0 80 -	0 70 -	1 10 -	1 50 -	2 25 -	0 50 -	- 2 00	45 00 45 00	- -	0 35 0 75
1 95 2 15	0 40 0 50	0 40 0 33	0 45 0 45	0 70 -	0 80 -	1 00 -	1 50 -	2 30 -	0 50 0 60	- -	45 00 45 00	19 00 -	0 42 0 50
- 3 00	- -	- -	0 55 -	- -	1 00 -	- -	2 25 -	- -	0 45 -	- 1 90	- 60 00	- -	0 35 0 65
2 70 2 35	0 50 0 41	- -	0 45 0 45	- -	0 95 1 00	- -	2 00 1 90	- 3 20	- -	- -	50 00 55 00	18 00 22 00	0 55 0 50
3 00 1 77	- 0 50	- 0 40	- 0 50	- 0 75	- -	- -	- -	- -	0 50 -	- -	- 40 00	18 00 -	0 60 0 40
- 2 00	- -	0 60 0 30	- -	- -	1 25 -	1 50 -	- -	- -	0 60 -	- -	50 00 50 00	20 00 -	- 1 00
2 50 2 00	0 45 0 45	- -	- 0 50	- -	0 90 1 00	1 50 -	1 75 -	2 90 -	0 60 -	- -	50 00 50 00	20 00 -	0 55 0 40
1 80 2 00	0 45 0 45	0 40 -	- -	- 0 70	- 0 80	- -	- 1 60	- -	- -	- -	55 00 50 00	- 22 00	0 60 0 50
2 00 1 85	0 45 0 50	0 40 0 35	0 45 0 40	0 70 -	0 80 0 70	- 0 90	1 60 1 30	- 2 25	- 0 45	- -	50 00 50 00	22 00 17 00	0 50 0 50
2 00 2 25	0 42 0 50	0 50 0 40	0 55 0 50	- -	1 00 0 85	- -	- 1 50	- -	0 50 0 60	- -	60 00 -	14 08 25 00	0 55 0 50
- 2 66	0 43 0 60	- 0 45	0 60 0 50	- -	1 00 0 90	1 50 1 25	- 2 00	- 3 00	- 0 60	- 2 00	55 00 -	18 00 25 00	0 37 0 40
2 40 2 15	0 40 0 45	- -	- 0 50	- 0 75	2 00 0 90	- 1 25	3 00 1 75	4 00 2 75	- -	1 25 -	- 60 00	20 00 17 00	0 80 0 50
- 2 35	- -	- 0 45	- -	- -	- 0 90	- -	- -	- -	- 0 50	- -	- 45 00	14 50 20 00	0 60 0 50
2 75 2 40	0 40 0 40	0 40 0 40	0 45 0 45	0 80 0 80	0 80 0 80	1 25 1 15	1 75 1 65	2 80 2 65	0 50 -	- -	40 00 50 00	22 00 16 75	0 36 0 40
- 2 15	- 0 50	- 0 40	- 0 45	- 0 65	- 0 75	- -	- 1 45	- -	- 0 45	- -	50 00 45 00	- 16 90	- 0 37
2 50 2 90	0 45 0 45	0 50 -	0 50 -	0 85 -	1 00 1 00	1 40 -	1 80 -	- 2 75	0 45 0 50	- 1 90	55 00 60 00	22 50 20 00	0 55 0 65



CONTRACT PRICES DEC. 1, 1930, to Nov. 30, 1931 — *Continued*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Gals.)	Conc. Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Ydl)	Trench (Cu. Yd.)			
Georgetown	J. E. Watkins	\$0 25	\$0 35	\$1 70	\$0 75	\$17 00	\$0 07½	—
Gill-Greenfield	Kelleher Corp.	0 60	0 30	0 60	1 00	16 00	0 08½	—
Grafton	G. Bonozzoli	0 40	—	2 00	0 90	18 00	0 10	—
Gt. Barrington	A. G. Bianchi Const. Co.	0 30	—	1 00	1 00	20 00	0 09	—
Gt. Barrington	F. T. Ley & Co., Inc.	1 32	0 39	2 00	0 79	10 00	0 14½	\$8 75
Groton & Pepperell	D. & C. Const. Co.	0 30	0 35	0 30	0 50	15 00	0 08	—
Hadley	Lane Const. Corp.	0 35	—	2 00	0 50	18 00	0 08	—
Halifax-Plympton	M. F. Roach & Sons	0 37	0 37	0 37	1 00	20 00	0 15	—
Hamilton	R. G. Watkins & Son	0 30	0 45	2 00	0 90	14 00	0 08	—
Hancock	A. Pallatto	0 65	0 60	3 00	0 50	20 00	0 09	—
Hanson	Arute Bros.	0 35	—	3 00	1 00	18 00	0 08	—
Harwich	Lane Const. Co.	0 20	0 20	0 20	0 75	25 00	0 16	—
Hingham	T. Whalen & Sons	0 40	—	4 00	1 00	14 00	0 07	7 00
Hingham	Bradford Weston	0 30	—	1 00	0 85	18 00	0 07½	—
Hingham-Hull	Waterbury Rd. C. Co.	—	0 65	6 00	1 00	18 00	0 07½	—
Hinsdale	Lee Const. Co.	*0 35	0 35	1 50	1 00	17 00	0 09	—
Holbrook	Arute Bros., Inc.	0 30	0 30	3 00	1 00	15 00	—	—
Holliston	Perini & Ampollini	0 50	—	6 00	0 50	16 00	0 06	—
Ipswich	R. G. Watkins & Son	0 30	0 35	—	0 80	16 00	0 09	—
Kingston	Guerini Bros.	0 35	—	5 00	0 80	—	0 08½	—
Lakeville-Middleborough	Arute Bros., Inc.	0 35	0 22	3 00	0 60	15 00	0 07	6 00
Ludlow	Adams & Ruxton Co.	0 40	—	3 00	0 80	20 00	0 08½	—
Lynnfield	State Const. Co.	0 30	—	1 75	0 80	15 00	0 08	—
Lynnfield-Wakefield	J. E. Ballentine & Sons	0 44	—	2 75	—	12 00	0 09	—
Mansfield	Arute Bros., Inc.	0 35	—	5 00	1 00	—	0 08	—
Marblehead	G. Rotundi & Son	0 40	—	2 40	0 90	15 00	0 07	—
Marlborough-Northborough	B. Perini & Sons	0 57	0 57	0 57	1 00	18 00	0 08½	8 00
Medway	Arute Bros., Inc.	0 20	—	2 50	0 60	20 00	0 07	—
Medway	Arute Bros., Inc.	0 20	0 35	0 20	0 60	15 00	0 06½	—
Melrose	Central Const. Co.	0 45	—	3 00	0 90	25 00	—	*
Mendon	E. L. Sabatinelli	0 55	0 40	1 50	0 90	14 00	—	—
Middleborough	Powers Bros.	0 35	0 35	2 00	0 75	16 00	0 07½	—
Milford	John F. Nagle	0 30	—	2 50	0 75	14 00	0 09	—
Millbury-Worcester	A. I. Savin	0 20	0 27	4 00	0 50	12 00	0 07	6 00
Millis	A. M. Cunstance & Co.	0 35	0 35	3 00	0 90	20 00	0 12	—
Millis	Perini & Ampollini	0 25	—	2 00	1 00	—	0 10	—
Milton	A. DeStefano, Inc.	0 35	—	2 50	0 90	16 00	0 07	7 00
Monson & Palmer	P. J. Holland	0 40	—	4 00	0 45	20 00	0 10	8 50
Monterey	J. DeMichael & Son	0 40	—	1 75	1 00	14 00	0 09	—
Nantucket	M. F. Roach	0 50	—	0 50	0 50	20 00	0 23	—
Needham	M. Pandolph Co.	0 31	0 33	2 50	0 79	12 00	0 07½	—
Newbury-Newburyport	Welch & Moynihan	0 30	—	2 00	—	—	0 08½	—
Newbury & Rowley	M. McDonough Co.	0 30	0 40	2 00	0 80	15 00	0 08	—
No. Andover	M. McDonough Co.	0 30	0 40	1 50	1 00	15 00	0 07½	—
Needham & Wellesley	B. Perini & Sons	0 28	0 28	1 35	0 60	15 00	0 07	—
Northborough	Greenough Const. Co.	0 20	—	5 00	1 00	15 00	0 12	—
Northborough-Shrewsbury	Lane Const. Corp.	0 25	0 25	3 50	1 50	18 00	0 09	7 25
Norwood	Smith Const. Co.	0 45	—	3 50	0 40	8 00	0 06	—
Norwood-Sharon-Walpole	Carlo Bianchi & Co., Inc.	0 24	0 24	1 50	0 60	17 00	0 09	5 65
Pelham	Kelleher Corp.	0 45	—	2 50	1 25	18 00	0 08½	—
Pembroke	Eastern Contr. Co.	0 33	—	4 00	0 75	18 00	0 07½	—
Phillipston	Greenough Const. Co.	0 30	—	3 00	1 00	15 00	0 12	—
Plainfield	N. Beacco & Sons	0 55	0 50	1 30	1 50	—	0 16	—
Plainville	Perini & Ampolini	0 30	—	1 00	2 00	—	—	—
Randolph	Ernest Barolone	0 30	0 30	1 00	0 75	14 00	0 11	—
Randolph	Powers Bros.	0 30	—	2 00	0 80	—	0 07	—
Rehoboth-Seekonk-Swansea	Sherry Const. Co., Inc.	0 30	—	2 00	0 75	12 00	0 08	6 75
Revere	M. McDonough Co.	0 60	0 40	4 00	1 00	15 00	0 08	—
Rochester	S. W. Lawrence	0 35	0 35	0 35	1 00	20 00	—	—
Rockland	Smith Const. Co.	0 35	—	3 50	0 65	10 00	0 07	—
Rowley	M. McDonough Co.	0 30	0 35	2 00	0 80	15 00	0 08	—
Royalston	Ralph E. Bull	0 25	—	4 00	1 00	17 00	0 11	—
Salem & Swampscott	M. McDonough Co.	0 25	0 40	1 50	0 60	15 00	0 07½	—
Salisbury	J. E. Watkins	0 25	0 30	1 00	0 65	18 00	0 08	—
Salisbury	J. E. Watkins	0 25	—	1 00	0 70	18 00	0 07	—
Salisbury	J. E. Watkins	0 30	0 45	2 00	0 85	18 00	0 08	—
Salisbury	W. S. Staples	0 25	—	0 80	0 65	14 00	—	—

CONTRACT PRICES DEC. 1, 1930, TO NOV. 30, 1931—Continued

Broken Stone (ton)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERT (lineal feet)							Wooden Guard Rail (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow Cu. Yd.)
		CLAY			REINF. CONCRETE								
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.					
1 85	\$0 43	-	-	-	-	-	-	-	\$0 60	-	\$50 00	\$20 00	\$0 40
2 10	0 40	\$0 45	\$0 50	\$0 75	\$0 90	\$1 50	\$1 90	\$2 75	0 50	-	55 00	17 00	0 56
2 55	-	-	1 00	-	-	-	-	-	-	\$1 70	40 00	20 00	0 40
2 60	-	-	-	-	1 00	-	-	-	-	-	-	25 00	1 00
3 70	-	-	1 00	-	-	-	-	-	-	-	30 00	15 00	0 50
2 00	0 45	-	0 40	-	1 00	-	-	-	-	-	50 00	17 00	0 40
1 90	-	0 50	0 50	0 85	-	-	-	-	0 60	-	55 00	18 00	0 30
-	0 50	0 45	0 60	-	-	-	-	-	0 55	1 50	50 00	20 00	0 37
1 85	0 42	-	-	-	0 70	1 05	-	-	0 50	-	50 00	-	0 45
2 50	0 50	-	0 60	-	0 60	-	1 50	2 50	-	-	-	20 00	0 65
2 60	-	0 47½	0 50	-	1 00	-	-	3 00	0 50	-	50 00	25 00	0 50
-	0 50	0 45	0 55	-	1 00	-	-	-	-	-	55 00	-	-
2 00	-	-	0 40	-	-	-	-	-	0 50	-	40 00	-	0 40
2 00	0 50	0 40	0 50	-	0 90	-	-	-	0 65	-	60 00	20 00	0 50
2 00	0 40	-	-	-	0 80	-	1 40	-	-	-	60 00	22 00	0 65
2 60	0 35	-	-	-	1 00	-	1 80	-	-	1 50	-	20 00	0 55
-	0 50	-	-	-	-	-	-	-	0 50	-	-	20 00	0 35
2 00	-	-	0 35	0 65	-	-	-	-	0 40	-	35 00	-	0 50
1 90	0 60	0 35	0 35	-	-	-	-	-	0 50	-	32 50	9 00	0 35
2 75	-	0 50	0 50	-	-	-	-	-	-	-	50 00	-	0 40
2 00	0 45	-	0 40	0 75	0 75	-	1 25	2 50	-	-	45 00	17 00	0 38
2 40	-	0 45	-	-	-	-	-	-	0 55	2 00	-	25 00	0 65
1 50	0 50	0 50	0 55	-	0 90	-	1 25	-	1 00	-	50 00	15 00	0 50
1 90	-	-	-	-	-	-	-	-	0 75	-	-	14 00	0 55
2 60	-	0 50	-	-	0 90	1 25	-	-	-	-	50 00	-	0 45
1 50	0 65	0 35	0 40	0 80	-	-	-	-	0 60	-	43 00	-	0 90
2 90	0 45	-	0 55	0 85	1 05	1 50	1 90	3 00	0 60	-	55 00	24 50	0 57
2 20	0 50	0 40	0 60	-	-	-	-	-	0 50	-	40 00	-	0 35
2 00	-	0 30	-	-	-	-	-	-	0 50	-	40 00	-	0 35
-	-	-	0 40	-	-	-	-	-	-	-	50 00	-	0 90
-	0 40	-	-	-	-	-	-	-	-	1 45	-	18 00	0 45
2 50	0 50	0 40	0 50	-	0 90	-	-	-	0 50	-	45 00	-	0 40
2 60	-	-	0 50	0 75	0 80	-	1 50	3 00	-	1 00	50 00	20 00	0 45
2 50	0 40	0 50	0 50	-	0 80	-	1 50	2 25	0 50	-	50 00	12 00	0 30
-	0 45	0 60	-	-	-	-	-	-	-	-	70 00	18 00	0 40
2 15	-	0 35	0 40	-	-	-	-	-	0 50	-	50 00	-	0 40
2 10	-	0 40	-	-	-	1 40	-	-	-	-	50 00	20 00	0 60
2 60	-	-	1 00	-	-	-	3 00	5 00	0 70	5 00	60 00	25 00	0 50
2 65	0 42	-	0 80	-	1 20	-	1 50	2 75	-	-	-	16 00	0 65
-	0 70	-	-	-	1 50	-	-	-	-	-	60 00	-	-
1 90	0 40	0 40	0 48	-	0 76	-	-	-	0 50	-	45 00	14 00	0 40
1 90	-	-	-	-	-	-	-	-	-	-	-	-	0 50
2 00	0 45	0 50	0 50	0 70	1 00	1 20	1 75	3 00	0 50	-	45 00	30 00	0 30
2 00	0 45	0 50	0 60	0 70	-	-	-	-	-	-	50 00	25 00	0 40
1 63	0 48	0 35	0 42	0 65	0 70	1 25	1 40	2 35	0 50	-	37 00	16 50	0 28
-	0 50	-	-	-	-	-	-	-	-	1 40	-	15 00	0 40
2 50	0 45	-	0 55	-	0 90	-	2 00	3 00	0 50	-	60 00	20 00	0 45
2 00	-	0 30	0 40	-	-	0 95	-	2 10	0 20	-	33 00	10 00	0 25
2 50	0 55	0 45	0 50	0 75	0 80	1 00	1 45	2 40	0 60	4 00	50 00	17 00	0 24
1 95	0 60	-	-	-	-	-	-	-	0 50	1 50	-	22 00	0 50
2 50	0 45	0 45	0 45	-	0 90	-	-	-	-	-	48 00	20 00	0 48
-	-	-	-	-	-	-	-	-	-	1 30	-	15 00	0 30
-	-	-	-	-	-	-	-	-	0 45	1 75	55 00	-	0 68
-	0 40	0 40	-	-	-	-	-	-	-	-	-	-	0 35
-	0 60	0 35	0 45	-	-	-	-	-	0 50	-	35 00	15 00	0 35
2 00	-	0 40	0 50	0 80	-	1 10	-	2 25	0 50	-	45 00	-	0 40
2 35	0 45	0 40	0 45	0 80	0 90	1 25	-	-	0 50	-	50 00	16 00	0 45
2 00	-	0 45	0 60	-	0 75	1 25	1 60	3 25	-	-	60 00	30 00	1 00
-	0 50	0 50	0 50	-	-	-	-	3 00	-	-	50 00	25 00	0 50
2 00	-	0 35	0 40	-	-	-	-	-	-	-	35 00	-	0 30
1 75	-	0 40	0 50	0 75	-	-	-	-	0 50	-	45 00	30 00	0 30
-	0 55	-	-	-	-	-	-	-	-	1 60	-	20 00	0 50
1 25	0 60	0 40	0 40	0 60	0 70	2 00	1 50	2 00	0 50	-	35 00	15 00	0 50
2 00	0 45	0 35	0 40	0 60	0 75	1 50	-	-	0 50	-	40 00	18 00	0 40
1 95	-	0 40	0 40	-	-	-	-	-	-	-	40 00	18 00	0 35
2 20	0 45	-	-	-	-	-	-	-	-	-	-	-	0 50
2 00	-	0 33	0 35	-	-	-	-	-	-	-	37 00	-	0 50



CONTRACT PRICES DEC. 1, 1930, TO NOV. 30, 1931 — *Concluded*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Gals.)	Concrete Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)			
Saugus	Mogovero-Merrill Co.	\$0 40	\$0 40	\$1 50	\$0 75	\$12 00	\$0 07	-
Savoy	H. W. Flaherty	0 70	0 70	0 70	1 30	18 00	0 18	-
Seekonk	T. J. Quinn	0 35	-	2 00	1 20	15 00	0 06	-
Sharon	Dingley & Lloy	0 38	-	2 30	1 00	16 00	0 07½	-
Sheffield	N. H. Rd. Const. Co.	0 40	0 55	1 90	1 00	20 00	0 09½	\$8 65
Sherborn	Perini & Ampollini	0 30	-	4 60	0 40	16 00	0 06	-
Shirley	Geo. H. Pierce	0 30	0 20	7 00	1 00	15 00	-	-
Shrewsbury-Worcester	E. D. Ward Co.	0 25	0 20	6 00	1 00	16 00	0 08½	5 85
Somerset & Swansea	Sharry Const. Co.	0 30	-	4 00	0 90	12 00	0 09	7 00
Southbridge & Sturbridge	New Haven Road Const. Co.	0 40	0 40	1 70	0 45	19 00	0 09	-
So. Hadley	Warner & Goodwin	0 40	0 30	4 00	1 00	20 00	0 09	-
Spencer	Jas. Chesarone	0 43	-	2 00	1 00	16 00	-	-
Sterling	Perini & Ampollini	0 35	0 35	2 00	1 00	18 00	0 11	-
Stockbridge	Lane Const. Corp.	0 35	0 20	0 35	1 25	19 00	0 08	-
Sunderland	Kelleher Corp.	0 30	0 30	2 00	1 25	18 00	0 08	-
Sutton	Roger T. Fay	0 60	0 25	1 50	1 00	20 00	0 09	-
Topsfield	S. Triconi	0 30	0 40	1 25	0 75	15 00	0 08	-
Topsfield	H. N. Conant	1 00	0 70	10 00	0 70	-	0 15	-
Townsend	P. J. Keating Co.	1 50	0 35	8 00	2 00	-	0 11	-
Townsend	P. J. Keating Co.	1 50	0 54	8 00	-	-	0 11	-
Uxbridge	Lane Const. Corp.	0 20	0 10	5 00	1 00	14 00	0 08	6 00
Uxbridge	Wbury Rd. Const. Co.	0 30	0 30	5 00	1 00	-	0 09	-
Wareham	J. Iafolla Const. Co.	0 35	0 50	3 00	0 45	20 00	0 09½	-
Wayland	W. & L. Eng. Co.	0 50	-	0 50	0 70	16 00	0 07½	-
Wenham	Welch & Moynihan	0 30	-	2 00	0 90	18 00	0 07½	-
Westborough	Carlo Bianchi & Co.	0 32	0 32	2 50	1 00	18 00	0 08	-
Westborough	Carlo Bianchi & Co.	0 30	0 35	2 50	1 00	18 00	0 08	-
W. Bridgewater	Otis R. Mann	0 45	-	3 00	1 00	18 00	0 12	-
W. Newbury	J. J. Watkins	0 30	0 45	2 00	0 80	15 00	-	-
Weston	P. Salvucci	0 35	0 35	2 25	0 80	15 00	0 08	-
W. Stockbridge	Sermini & Giracca	0 40	0 50	2 00	-	-	0 09	-
Wilbraham	Lane Const. Corp.	0 45	-	0 45	1 25	20 00	0 10	9 00
Williamstown	Ralph E. Bull	0 33	-	4 00	0 90	15 00	0 08	-

\* Conc. Surf. in Melrose: Cement Concrete Surface for top course ..... \$8.30  
 (Cu. Yd.) High early strength cement concrete for top course ... 9.55  
 Cement concrete surface for bottom course ..... 6.40  
 High early strength cement concrete for bottom course 7.30

CONTRACT PRICES DEC. 1, 1930, TO NOV, 30, 1931 — *Concluded*

Broken Stone (ton)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERT (lineal feet)							Wooden Guard Rail (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow (Cu. Yd.)
		CLAY			REINF. CONCRETE								
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.					
\$1 30	\$0 56	\$0 35	0 40	-	-	-	-	\$0 70	-	\$45 00	-	\$0 45	
-	0 45	-	-	-	-	-	-	-	-	-	-	-	
1 65	-	0 40	0 45	-	-	\$1 90	\$3 25	0 55	\$1 70	45 00	\$25 00	0 80	
2 33	0 45	0 40	-	-	-	-	-	-	-	-	20 00	0 40	
2 65	0 50	-	0 65	-	\$0 85	1 50	-	0 50	-	48 00	20 00	0 48	
2 00	0 45	0 35	0 40	-	1 00	2 00	3 25	0 55	-	75 00	30 00	0 55	
-	0 55	-	0 50	-	-	-	-	-	-	35 00	-	0 40	
2 65	0 45	0 40	0 45	-	-	-	-	0 55	-	50 00	15 00	0 25	
2 25	0 40	0 40	0 50	\$0 80	0 75	-	1 50	2 50	-	45 00	13 50	0 30	
3 00	-	-	0 50	-	0 90	-	1 85	3 00	0 50	50 00	15 00	0 50	
2 00	0 45	-	-	-	0 90	-	1 50	2 75	-	70 00	25 00	0 65	
-	0 65	-	-	-	-	2 00	-	8 00	0 50	2 00	25 00	0 50	
-	0 45	-	-	-	1 00	-	1 80	-	-	1 90	20 00	0 48	
2 50	0 40	-	0 50	-	1 00	-	1 75	2 75	-	1 80	22 00	0 65	
2 00	0 55	-	-	-	-	-	-	-	-	-	60 00	19 00	
2 25	0 70	-	0 45	-	-	-	-	-	-	2 00	20 00	0 45	
1 80	0 55	-	0 50	1 00	-	-	-	-	-	2 00	20 00	0 50	
-	-	-	-	-	1 00	-	-	-	0 50	1 35	25 00	0 40	
-	0 60	-	-	-	-	-	-	-	-	-	50 00	20 00	
-	-	-	-	-	-	-	-	-	-	-	60 00	15 00	
2 70	0 45	-	0 50	-	-	-	-	-	0 50	-	18 00	1 00	
2 70	0 50	-	-	-	-	-	-	-	0 50	-	18 00	0 50	
2 70	-	-	0 45	0 75	-	-	-	-	-	-	20 00	0 50	
2 00	0 50	-	0 50	0 70	0 85	1 85	2 75	-	-	55 00	16 00	0 25	
1 75	-	0 40	0 50	-	-	-	-	-	-	-	16 00	0 40	
2 75	0 45	-	-	-	0 90	-	2 25	0 60	-	48 00	20 00	0 65	
2 80	0 50	-	0 55	-	0 90	1 00	-	-	-	50 00	20 00	0 42	
1 75	-	-	-	-	0 70	-	-	-	-	50 00	18 00	0 50	
-	0 45	-	-	-	0 90	-	1 50	2 50	-	1 75	25 00	0 55	
2 20	0 50	0 40	0 50	1 00	0 90	-	1 50	2 50	-	1 80	25 00	0 55	
2 60	0 60	-	-	-	1 00	-	-	-	0 60	-	25 00	0 60	
2 50	0 50	0 50	0 70	-	0 85	-	2 00	-	0 60	-	-	0 50	
2 30	0 55	-	0 45	-	0 80	1 25	-	4 00	0 50	-	50 00	0 50	
					-	-	-	-	-	2 00	15 50	1 00	
					-	-	-	3 50	0 50	-	60 00	0 60	
					0 95	-	1 70	-	-	2 00	52 00	0 55	



## REGISTRY OF MOTOR VEHICLES

The 1931 statistics do not indicate an increase in the number of registration applications handled, except in the case of the commercial vehicles. The other classes of applications handled indicate some decrease, although the volume of work handled by the Registry throughout the year was not affected by the numerical decrease in the count of applications received, as the use made of the Registrar's records and files by letter, personal calls at the counters, and of the telephone information lines, was constantly on the increase.

There has been a noticeable decrease in the number of court abstracts received, which directly affects the revenue received from fines. The number of abstracts received in 1931 was 2,300 less than the previous year, which year, in turn, was about 5,000 less than the peak year of 1929. It is fair to assume that the decrease in court abstracts received indicates an increase in the number of persons who are complying with the motor vehicle laws, rather than any less activity in the matter of law enforcement.

The Registrar of Motor Vehicles in continuing his activities for greater safety on the highways has had the co-operation of the various safety committees, police and other officials and organizations of the Commonwealth.

In this connection, the Department was directed and authorized to make a study of the problem of reducing loss and damage, injury and death resulting from the use and operation of motor vehicles, and for this purpose there was appropriated a sum not exceeding \$20,000. In conducting this study, Dr. Charles S. Slocombe was appointed as Expert Assistant to the Registrar, and this work was started at the Registry on June 1. The investigation is now well under way.

A few of the outstanding figures of the work of the Registry during the year, together with a comparison with the previous year, follow: —

	1930	1931
Motor Vehicle certificates of registration issued . . . . .	1,013,118	1,009,876
Licenses to operate issued . . . . .	982,795	1,024,304
Examinations of applicants for licenses . . . . .	123,001	112,763
Licenses and registrations revoked and suspended . . . . .	52,954	58,306
Licenses revoked for driving under influence of liquor . . . . .	5,052	5,535
Total number of applications handled . . . . .	2,104,342	2,115,193
Gross receipts from fees . . . . .	\$6,462,618 51	\$6,430,015 98

### REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a .37% decrease in passenger registrations, with a very slight increase in commercial registrations, the motor cycle registrations continuing to decrease as they have for several years past.

	1905	1910	1915	1920	1925	1930	1931
Passenger cars . . . . .	4,889	31,360	90,580	251,570	663,858	893,558	890,228
Commercial vehicles . . . . .	—	—	12,053	52,968	100,480	114,918	116,580
Motor cycles . . . . .	553	3,358	9,520	15,142	10,333	4,642	3,068
Totals . . . . .	5,442	34,718	112,153	319,680	774,671	1,013,118	1,009,876

### EXAMINATIONS FOR LICENSES

The appointment system of examining operators adopted in 1930, having proved satisfactory, was continued throughout 1931. The examination has continued to include not only an actual demonstration on the highways but a reading test, an eye test and a thorough test of the applicant as to his knowledge of the motor vehicle law.

In this connection, the so-called "Questions and Answers" book was carefully revised and edited in such a way that it is believed that operators could learn the information required more readily by having related items and questions grouped, and the examiner, in asking questions, asks at least one question from each group instead of asking questions at random as was the custom under the old system when questions asked might be of minor importance, at least so far as giving any

indication of the operator's general knowledge of the motor vehicle law requirements and operating information was concerned.

The number of persons examined decreased and also the number of persons who failed decreased, both of which items plainly indicate that the requirements of the new examination are such that more and more the public are not presenting themselves as applicants for licenses until they have the required qualifications. Examinations for licenses were held at 55 points in the State with the results as tabulated below:—

	1930	1931
Operators passed . . . . .	88,592	87,950
Operators unfit . . . . .	19,307	15,519
Restriction removal, passed . . . . .	12,166	8,306
Restriction removal, unfit . . . . .	1,601	934
"Competency" passed . . . . .	1,241	699
"Competency" unfit . . . . .	94	58
Total examinations . . . . .	123,001	113,466

BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles are able to render practically the same service to the public that is rendered at the main office at Boston, except as to information from the records, none of which are kept at the branches. Each branch office serves as a headquarters for the district in which it is located, both as to distribution of number plates and licenses, and law enforcement.

The following table gives approximate figures showing the distribution of applications received at the branch offices and at the central office at Commonwealth Pier, Boston:—

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Total
Boston:					
Counter . . . . .	218,000	—	131,000	90,000	439,000
Mail . . . . .	170,000	—	484,000	10,000	664,000
Examination . . . . .	—	32,000	—	7,500	39,500
Pittsfield . . . . .	24,000	3,300	17,000	7,100	51,400
Springfield . . . . .	77,000	9,800	49,000	21,000	156,800
Greenfield . . . . .	15,000	1,700	8,200	7,400	32,300
Worcester . . . . .	57,000	7,300	41,000	19,000	124,300
Fitchburg . . . . .	17,000	1,300	11,000	5,400	34,700
Framingham . . . . .	11,000	300	2,100	1,400	14,800
Lawrence . . . . .	34,000	4,600	26,000	11,000	75,600
Lowell . . . . .	27,000	3,400	20,000	8,000	58,400
Fall River . . . . .	22,000	4,400	20,000	7,500	53,900
New Bedford . . . . .	22,000	3,100	21,000	7,700	53,800
Lynn . . . . .	63,000	8,700	42,000	20,000	133,700
Quincy . . . . .	32,000	6,900	26,000	14,000	78,900
Brockton . . . . .	41,000	3,500	28,000	14,000	86,500
Hyannis . . . . .	10,000	2,100	5,200	3,500	20,800
Nantucket <sup>1</sup> . . . . .	700	—	—	—	700
Oak Bluffs <sup>1</sup> . . . . .	2,300	—	—	—	2,300
Totals . . . . .	843,000 <sup>3</sup>	92,400	931,500	254,500 <sup>2</sup>	2,121,400

A new branch office was opened in Framingham on August 19, 1931, this office being classified as a sub-office in the Boston district. Plans for a new sub-office in Northampton, coming within the jurisdiction of the Springfield office, were not completed in time for the opening of this new office until after the close of the fiscal year.

<sup>1</sup> Licenses and miscellaneous applications included in counter figures.  
<sup>2</sup> This figure includes approximately 167,000 number plate reissues.  
<sup>3</sup> Does not include reissues (see Miscellaneous).



### COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures give an approximate idea of the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

#### *Notices of Cancellation of Insurance Policies Received and Intents to Revoke Mailed*

	1930	1931
(a) For non-payment of premiums . . . . .	70,855	85,298
(b) For other reasons . . . . .	14,635	20,918
Total . . . . .	85,490	106,216
Revocations . . . . .	28,959	35,105
Sets of number plates returned . . . . .	94,290	93,279

It is interesting to note that the receipt of 106,216 notices of cancellation from insurance companies required the mailing of the same number of notices of intent to revoke; that 19,323 of these cases were adjusted by the filing of certificates by a new company; 47,627 cancellations were adjusted by the filing of reinstatement notices from the same company; 4,161 by the surrender of registration plates prior to the effective date of cancellation; and 35,105 by the revocation of the plates and certificates. In connection with the surrender of the number plates it was necessary to send notices of the return of 93,279 plates to the various insurance companies covering the registrations involved.

Particular attention should be directed to the fact that of the 35,105 revocations only about 11,000 persons returned their plates and certificates promptly upon receiving notice from this office. The return of approximately 14,000 sets of plates and certificates were secured through the efforts of the police departments and the examiners and inspectors of the Registry, leaving approximately 10,000 sets of plates not returned, although the registrations involved had been revoked and the insurance cancelled. Practically all of these revocations were due to non-payment of premium cancellation notices.

### AIRCRAFT

The statistics of the Aviation Section show a decrease in the number of persons killed in airplane accidents and also the number of persons injured, although peculiarly enough the number of fatal airplane accidents increased slightly. The statistics of this section for the fiscal year also show a great increase in the number of pilots holding permits issued by the Department and also a very great increase in the number of airplanes registered and for which permits have been issued.

The work of the Engineering Section has been mainly in connection with re-checking airports for improvements made and this section has also been engaged in a detailed study of the various landing fields throughout the State, so that another step leading towards greater safety in aviation has been taken.

A marked increase in the number of investigations has been made by this section and also the personnel has been able to check a very much larger number of airplanes for permits and for repairs, as well as a general periodic check-up throughout the year.

The same co-operation has been extended to various organizations throughout the United States, as well as to certain foreign governments, as has been extended in previous years and there has been an increase in both the number and field of inquiries.

The following statistics, which give a summary of the work, indicate a strict enforcement of the law, which tends for greater safety, both to the public at large and in particular to the flying personnel and the persons who use aircraft.

In general, an increase in activity is shown by the statistics below: —

	1930	1931
Pilots' licenses issued . . . . .	39	31
Airplanes registered . . . . .	43	49
Pilots' license fees received, including examination fees . . . . .	\$335	\$248
Airplane registration fees received . . . . .	\$645	\$687

	1930	1931
Duplicates issued . . . . .	0	6
Certified copies issued . . . . .	0	1
Duplicate fees received . . . . .	0	\$6
Fees received for certified copies . . . . .	0	\$1
Pilots examined for licenses and amendments . . . . .	45	22
Aircraft examined for registrations, permits and repairs . . . . .	361	436
Pilots' permits issued . . . . .	338	358
Aircraft permits issued . . . . .	231	298
Suspensions of licenses, registrations and rights to fly . . . . .	53	37
Court prosecutions for violations of aircraft laws . . . . .	5	6
Surveys of bodies of water for seaplane bases . . . . .	1	0
Surveys of fields for airports . . . . .	26	10
Re-check surveys of fields for airports . . . . .	10	24
Buildings surveyed for air marking . . . . .	15	0
Flying fields approved . . . . .	14	0
Flying fields disapproved . . . . .	14	0
Investigations made by aircraft inspectors . . . . .	650	763
Rulings made by Registrar . . . . .	3	0
Airplane accidents: —		
Crack-ups . . . . .	50	69
Non-fatals . . . . .	17	12
Fatals . . . . .	1	3
Unknown . . . . .	1	0
Persons injured . . . . .	39	31
Persons killed . . . . .	5	4
Planes damaged . . . . .	53	67
Planes washed out . . . . .	20	18
Caused by motor failure . . . . .	11	18
Structural failure . . . . .	7	8
Improper operation and other reasons . . . . .	54	58
Ground accidents: —		
Crack-ups . . . . .	20	15
Non-fatals . . . . .	3	3
Fatals . . . . .	0	1
Persons injured . . . . .	3	3
Persons killed . . . . .	0	1
Planes damaged . . . . .	23	21
Planes washed out . . . . .	2	0

#### INSPECTION OF MOTOR VEHICLE EQUIPMENT

Under authority of regulations of the Registrar, which became effective during the previous year, a second periodic inspection was made of the equipment of all motor vehicles registered in the Commonwealth. An inspection was required, in each case, within fifteen days after the date of registration. The results were very satisfactory and effected a general improvement of equipment, especially brakes. Very few complaints were received from motorists and it was apparent that the work was performed honestly and, for the most part, efficiently.

As was expected, however, the results proved that one inspection per year, although helpful, cannot be expected to secure the desired results. In drawing up the regulations, however, it was felt that it would be wiser to start with fewer inspections than were actually desirable in order to permit a proper organization of official inspection stations, and to supply experience which could be used to advantage in deciding upon a future policy. It is hoped, if business and other conditions warrant, to hold two inspections during the year 1932.

During the year, a total of 870,000 cars were inspected. Adjustments or repairs were found necessary in about 49% of the cases reported. This figure showed a considerable improvement over the conditions which existed at the time of the first periodic inspection in 1930, when 70% of the vehicles inspected were found in need of repair.



Analysis of the results of the Second Equipment Inspection Period may be summarized as follows:—

Total number of cars inspected . . . . .	870,000
Total O. K. without repair or adjustment . . . . .	443,000—51%
Total requiring replacement or adjustment . . . . .	427,000—49%

Repairs or adjustments on the 427,000 vehicles requiring correction of defects in equipment were as follows:—

Lights only . . . . .	243,000
Brakes and lights . . . . .	104,000
Brakes only . . . . .	69,500

Horn, mirror, muffler and other minor items of inspection required adjustment or repair on 19,500 vehicles.

#### *Brakes, Lights and Overloads*

Fifteen men were regularly assigned to equipment work. Besides their duties in connection with the approval of the official inspection stations and adjusters, these men did considerable road work in tagging or reporting overloaded commercial vehicles and vehicles operated with defective brakes, lights, or other equipment. There were 4,338 motor vehicles tagged for defective brakes, 23,958 for defective lights, and 1,361 cases reported to the Registrar for immediate action because of the dangerous condition of equipment. In addition, equipment inspectors reported 3,966 cases of improper operation of motor vehicles for warning or action by the Registrar, and examined 246 applicants for licenses. More than 360 cases of overloading of commercial vehicles to an extent that rendered their operation dangerous to the public or destructive to road surfaces were reported to the Registrar for appropriate action.

#### *Headlamps and Rear Lamps*

The Registrar approved no new automobile headlamps or devices during 1931. Extensions of approval of certificates already in force were made in the cases of five approved headlamps. Approvals were granted to one new motorcycle headlamp and eight motor vehicle tail lamps. All of these were of the type in which the tail light was combined with stop signals.

#### **MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS**

Deaths caused by motor vehicles in 1931 numbered 793, a decrease of two or 0.2 per cent as compared with the record of the previous year. The record of classified fatalities, injuries and collisions in the years 1930 and 1931 is as follows:—

#### *Motor Vehicle Accidents to Persons*

	Persons Killed		Persons Injured	
	1930	1931	1930	1931
Pedestrians by autos . . . . .	438	434	15,413	15,499
Pedestrians by motor cycles . . . . .	3	3	32	27
Pedestrians near street cars . . . . .	4	9	32	59
Occupants of autos . . . . .	281	281	26,688	31,142
Occupants of autos at railroad crossings . . . . .	22	22	31	38
Occupants of motor cycles . . . . .	16	14	589	458
Bicycle riders . . . . .	13	20	812	822
Occupants horse-drawn vehicles . . . . .	9	2	257	279
Coasters (on sleds) . . . . .	7	7	333	434
Coasters (on wheels) . . . . .	2	1	92	79
Totals . . . . .	795	793	44,279	48,837

	Children Killed		Children Injured	
	1930	1931	1930	1931
Boys . . . . .	116	138	7,163	7,886
Girls . . . . .	45	61	3,689	4,159
Totals . . . . .	161	199	10,852	12,045

Number of Collisions

	1930	1931
Collision with pedestrian	14,619	15,169
Collision with automobile	17,145	19,629
Collision with horse-drawn vehicle	282	287
Collision with railroad train	25	31
Collision with street car	327	360
Collision with fixed object	1,624	1,846
Collision with bicycle	801	809
Non-collision accident (car overturned)	525	746
Collision with motor cycle	542	502
Collision with sled	319	383
Collision with animal	92	85
Totals	36,301	39,847
In the daytime	22,447	25,018
After dark	13,854	14,829
Totals	36,301	39,847

ACCIDENT REPORT LETTERS

As provided by Section 26, Chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these accident reports received in 1931 was 44,994 as compared with 38,374 received in 1930. Under the requirements of Section 29, Chapter 90, General Laws, 19,824 similar reports of accidents were received from Police Departments throughout the State in 1931 as against 16,970 received in 1930.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Suspensions and Revocations	For Operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,016,916	6,168	1,023,084	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535

INVESTIGATIONS AND PROSECUTION BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, headlight violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. The work of the inspectors is indicated by the following tabulation on the classification of reports:

Classification of Reports

	1930	1931
Accidents, fatal	761	746
Accidents, non-fatal	4,916	5,853
General reputation	3,893	4,437
Miscellaneous	7,037	7,879
Totals	16,607	18,915



	1930	1931
Complaints filed . . . . .	6,426	21,206
Garages inspected . . . . .	6,010	5,911
Headlight and other violations reported . . . . .	37,294	50,269
Prosecutions conducted . . . . .	594	831
Amount of fines . . . . .	\$28,334	\$35,815

## REVOCATIONS AND SUSPENSIONS

	1930	1931
Licenses suspended . . . . .	11,633	17,018
Licenses revoked . . . . .	3,740	3,880
Rights suspended . . . . .	4,014	5,236
Certificates suspended . . . . .	9	8
Certificates revoked . . . . .	31,471	35,577
Certificates and licenses suspended . . . . .	55	21
Certificates and licenses revoked . . . . .	1,841	1,882
Certificates revoked and rights suspended . . . . .	148	173
Rights in Massachusetts suspended . . . . .	43	46
Totals . . . . .	52,954	63,841
Resulting from investigations . . . . .	12,429	19,466
Resulting from Court convictions . . . . .	9,096	9,277
Resulting from Police complaints . . . . .	1,856	1,627
Resulting from Judges' complaints . . . . .	33	35
Resulting from State Police complaints . . . . .	676	229
Resulting from Insurance cancellations . . . . .	28,864	33,207
Totals . . . . .	52,954	63,841

*Character of Offenses*

	1930	1931
Reckless and endangering . . . . .	2,034	2,084
Liquor convictions . . . . .	4,302	4,613
Going away after accidents . . . . .	425	384
Without authority . . . . .	734	822
Racing . . . . .	2	0
Improper person . . . . .	5,357	5,967
Improper person, liquor . . . . .	750	922
Improper operation . . . . .	7,661	13,548
Two overspeeds . . . . .	362	172
Three overspeeds . . . . .	24	12
Insurance cancellations . . . . .	28,864	33,207
Insurance convictions . . . . .	351	351
Improper equipment, miscellaneous . . . . .	412	307
Improper equipment, brakes . . . . .	187	400
Improper equipment, lights . . . . .	637	191
Fatal accidents . . . . .	772	780
Other offenses . . . . .	80	81

Totals . . . . .	52,954	63,841
Formal hearings . . . . .	5,789	7,325

## Court recommendations adopted: —

	1930	1931
Liquor . . . . .	0	0
Reckless and endangering . . . . .	79	53
Going away after accidents . . . . .	14	17
Without authority . . . . .	0	1

Totals . . . . .	93	71
Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned . . . . .	4,215	4,113

## ANALYSIS OF COURT ABSTRACTS RECEIVED

	1930	1931
Number of courts forwarding abstracts . . . . .	95	95
Total abstracts received . . . . .	57,851	57,937
Number of abstracts recording convictions . . . . .	41,165	38,869

*Offenses*

(Analysis of convictions, not including appeals)

Overspeeding . . . . .	14,283	12,890
Reckless . . . . .	21	26
Operating under the influence of liquor . . . . .	3,115	3,934
Using auto without authority . . . . .	821	1,068
Endangering lives . . . . .	1,885	2,220
Not stopping after causing injury . . . . .	556	662
Without license . . . . .	2,878	2,895
Without registration certificate . . . . .	1,024	902
Unregistered vehicle . . . . .	250	262
Improper display or no register number . . . . .	176	132
Refusing to stop on signal . . . . .	453	245
Unlighted lamps . . . . .	688	820
Not signalling . . . . .	2	0
Operating within 8 ft. of street car . . . . .	202	249
Violation of Metropolitan Park rules . . . . .	1,096	710
Operating after suspension or revocation of license . . . . .	372	456
Larceny . . . . .	145	139
Miscellaneous . . . . .	3,057	2,328
No reflector . . . . .	7	—
Racing . . . . .	2	—
Operating after registration certificate revoked . . . . .	11	8
No rear light . . . . .	89	32
Not displaying lights . . . . .	127	50
Improper lights . . . . .	583	534
Brakes not as required by law . . . . .	399	252
Violation of Insurance Law . . . . .	262	316
Not slowing down approaching pedestrian . . . . .	39	41
Not slowing down at intersecting way . . . . .	7,242	5,942
Violation of law of road . . . . .	1,344	1,723
Perjury — making false statements on license application; falsely impersonating or conspiring to obtain a license . . . . .	9	21
Loaning a license to another . . . . .	3	3
Allowing intoxicated person to operate . . . . .	5	2
Attempted larceny . . . . .	19	7
Totals . . . . .	41,165	38,869

## USED CAR SECTION

(Motor Vehicle Identification)

The Used Car Section indexes cars reported stolen, lists the sales of used cars, investigates the history of cars sold bearing obliterated, defaced or changed engine and makers' numbers, and advises the owners of cars registered under incorrect engine and makers' numbers how to find and report the correct numbers on the cars.

The work of this section is summarized in the following tables: —

*Dealers*

	1930	1931
Total number of first class dealers reporting . . . . .	1,327	1,255
Total number of second and third class dealers reporting . . . . .	460	501
Total number making reports to this office . . . . .	1,787	1,756



*Reports*

Approximate number of individual reports received daily . . .	300	230
Approximate number of dealers' reports received daily . . .	1,000	1,085

*Motor Vehicles Stolen*

Number stolen in Boston . . . . .	4,879	5,336
Number stolen in Massachusetts (including Boston . . . . .	8,389	10,720
Number reported stolen from various sources throughout the country, including Massachusetts . . . . .	25,300	27,486
Number recovered through information furnished by this office . . . . .	344	355

*Engine and Serial Numbers*

Engine numbers assigned to cars . . . . .	24	29
Certificates issued authorizing the replacement of engine numbers . . . . .	847	701
Certificates issued authorizing the replacement of serial numbers . . . . .	1,552	1,135
Certificates issued authorizing the replacement of both engine and serial numbers . . . . .	10	18
Total number of authorized certificates issued . . . . .	2,409	1,854

## EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Representatives of the department attended meetings of the Eastern Conference of Motor Vehicle Administrators held in New York City on October 22nd and 23d. Members present represented seventeen states, including the District of Columbia and several Canadian provinces. Registrar Morgan T. Ryan was elected to membership in the Association and former Registrar Major George A. Parker was elected to honorary membership.

The Conference directed its attention chiefly to matters of safety on the public highways. Mechanical power brakes, the hazards of gasoline distribution, gasoline advertisements emphasizing speed, reciprocity between states particularly in respect to motor trucks, motor vehicle headlamps and headlamp bulbs with a reflective coating on the front of the bulb glass, were also subjects of considerable discussion by the Conference.

## ANALYSIS OF RECEIPTS

The fees received for the year 1931, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table: —

## Certificates of registration:

Passenger cars (including taxicabs) . . . . .	885,953	\$2,670,643	90
Commercial cars . . . . .	116,580	1,248,241	70
Busses . . . . .	4,275	98,974	45
Trailers . . . . .	650	34,927	50
Motor cycles . . . . .	3,068	4,172	00
Manufacturers or dealers (including repairers) . . . . .	3,360	9,999	00
Manufacturers or dealers additional cars (including repairers) . . . . .	20,031	59,703	00
Licenses to operate:			
Original licenses . . . . .	90,179 at \$2 00	—	180,358 00
Renewal licenses . . . . .	934,125 at 2 00	—	1,868,250 00
Examinations . . . . .	83,733 at 2 00	\$167,466	
Re-examinations . . . . .	29,030 at 1 00	29,030	

Total examinations . . . . .	112,763	196,496	00
Copies of certificates and licenses furnished . . . . .	43,233 at \$1.00	43,233	00
Duplicate number plates furnished . . . . .	7,535 at \$1 00	7,535	00

P. D. 54		83
Lens approval applications	11 at 50 00	550 00
Miscellaneous receipts, auto lists, process fees, etc.		6,932 43
Total amount of fees		\$6,430,015 98
Motor vehicle fees rebated (deducted)		65,334 83
Net fees		\$6,364,681 15
Court fines received by the Treasurer and Receiver General		570,290 03
Total receipts credited Highway Fund account, 1931		\$6,934,971 18

#### EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1931 was \$1,571,-077.24, which was 24.6 per cent of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,363,893.94 available for legislative appropriation for highway work.

#### ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1931

##### *Payrolls*

Personal services:		
Regular payroll	\$926,142 18	
Overtime	13,543 44	
		\$939,685 62

##### *Expenses*

Supplies:		
Books, maps, etc.	\$1,264 09	
Typewriter supplies	3,977 89	
Adding machine repairs and supplies	103 47	
Other supplies	4,218 35	
Stationery	24,954 74	
Typewriter repairs	104 22	
Other repairs	533 66	
		\$35,156 42
Equipment and furniture:		
Typewriter machines	\$6,131 28	
Other machines	4,229 34	
Desks	605 24	
Bookcases, tables, etc.	291 16	
Filing cabinets	4,572 26	
Chairs	993 10	
Dictograph	2,455 33	
Partitions (Boston)	470 00	
Branches—counters, safes	699 10	
Electric fans	386 55	
Headlight and brake testing expense	68 00	
Uniforms	7,966 34	
		28,867 70
Traveling expenses:		
Officials	\$2,378 76	
Employees	41,943 62	
Aviation	6,515 69	
Automobiles (hired)	23 35	
Automobiles (owned by employees)	117,640 29	
Automobiles (owned by state):		
Maintenance of 10 automobiles	3,854 83	
Purchase of 1 automobile	528 30	
		\$172,884 84
Other services and expenses:		
Expressage	\$2,681 00	
Postage	81,039 80	



## Printing:

Other reports . . . . .	1,789 73
Other printing . . . . .	10,037 13
Telephone . . . . .	7,716 02
Premium on bonds of employees . . . . .	388 58
Rent . . . . .	46,000 00
Cleaning and janitor services . . . . .	1,260 00
Rat extermination . . . . .	262 25
Labor . . . . .	572 10
Number plates . . . . .	191,041 23
Direct mail lists . . . . .	11,500 00
Sundries . . . . .	288 02
Towels and soap . . . . .	911 37
Water and ice . . . . .	1,110 00

## Branch offices:

Rent, telephone, lighting, fuel and heating . . . . .	\$27,658 06
Labor and services . . . . .	5,564 82
Supplies and express . . . . .	3,867 42

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\$393,687 53
*Publicity for Safety Work*

Labels . . . . .	\$765 00
Posters . . . . .	13 33
Sundries . . . . .	16 80

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\$795 13

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Total . . . . . \$1,571,077 24
*Summary*

Payrolls . . . . .	\$939,685 62
Expenses . . . . .	630,596 49
Publicity for Safety Work . . . . .	795 13

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\$1,571,077 24

Special investigation of accident reduction . . . . . 9,826 16

## RELATING TO WATERWAYS AND PUBLIC LANDS BOSTON HARBOR

### THE COMMONWEALTH FLATS AT SOUTH BOSTON

#### *Commonwealth Pier 5*

The usual work of maintenance and repair has been continued at the pier during the fiscal year. Work has been done upon the sprinkler system, the steam lines, the elevators, the roofs, the Ogden and Kinnear doors, the heating plant, and repairs have been made to gangways, floating fender logs, fittings and platforms.

The additional offices at the pier, begun in 1930 for the use of the engineering force, were completed Dec. 19, 1930, under contract of Aug. 26, 1930, with Carl S. Helrich, at a contract cost of \$18,377.96. A force of engineers and assistants numbering 335 engaged upon work relating to highways and bridges now occupy engineering offices at this pier.

On Feb. 10, 1931, a contract was made with the Massachusetts Electric Construction Company for furnishing and installing sixty-five wall outlets with connections, to facilitate electric service, on the first floor of the pier. The work was completed Mar. 13, 1931, at a contract cost of \$1,469.66.

A contract was made on May 5, 1931, with the Bay State Dredging and Contracting Company to furnish, drive, fit and secure new fender piles and foundation piles, to furnish and place new fender capping and to do other necessary timber work where required in the timber foundations of the platforms, at the pier. This work was completed July 28, 1931, at a contract price of \$1,347.87.

On July 7, 1931, a contract with the Gunite Construction Company was made for furnishing labor and equipment for the reconstruction and repair by the gunite process of the reinforced beams and slabs comprising the concrete platforms of the pier. The work was completed Nov. 18, 1931, at a contract cost of \$13,416.47.

#### *Development of Land South of Summer Street*

During the year the seven sections in Storehouse No. 1 on E Street have been occupied by the Wiggin Terminals, Inc. This Company also used section J of Storehouse No. 2 on D Street until October 1, 1931, and section K until Nov. 1, 1931. The Economy Grocery Stores Corporation has occupied section H of Storehouse No. 2 during the year under the lease of May 24, 1929, for a term of five years, and since Oct. 1, 1931, has used section J. Section K has been unoccupied since Nov. 1, 1931. The remaining sections of this storehouse are in use by the Department.

The work of repairing roofing, flashing, downspouts and sash at these warehouses, included under a letter contract with L. B. Renfrew Gray, dated Mar. 19, 1930, was completed Dec. 19, 1930, at a contract cost of \$7,484.87.

On July 15, 1931, a contract was made with the Klayman Construction Company for rebuilding about 281 linear feet of timber platform on the westerly side of Storehouse No. 1 and about 660 linear feet on the easterly side. The work was completed Sept. 26, 1931, at a contract cost of \$4,287.36.

#### *Northern Avenue Sea Wall*

The work of furnishing and placing stone riprap along the toe of the sea wall on the northerly side of Northern Avenue, to protect the pile foundations, under contract of Nov. 18, 1930, with William R. Farrell, was completed Dec. 4, 1930, at a contract cost of \$2,920.30.

#### *Grasselli Wharf*

The work under contract of Oct. 28, 1930, with Maurice M. Devine for painting, by spraying under compressed air, the exterior of the piershed at this wharf, was completed Dec. 11, 1930, at a contract cost of \$716.93.

This property has been occupied during the year by the Atlantic Radio and Marine Co., Inc., under the terms of a lease dated Oct. 1, 1930.

#### *Staples Wharf*

A contract was made on Dec. 2, 1930, with Maurice M. Devine for replacing and fitting fender piles, main piles, girder caps and stringers, and for repairs to the



deck planking at this wharf. The work was completed Feb. 17, 1931, at a contract cost of \$3,491.00.

### THE COMMONWEALTH FLATS AT EAST BOSTON

#### *Aircraft Landing Field — Boston Airport*

The greater part of the area reclaimed by the Commonwealth at East Boston is now occupied by the City of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the City approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. Negotiations are now in progress for the lease to the City of two additional parcels, one northeasterly of the areas included under leases of 1928 and 1930, and the other southeasterly of that leased in 1930.

The use of these areas by the City is, however, subject to certain rights of occupancy and use granted by previous agreements to the Federal Government. The lease to the War Department under date of June 30, 1922, contains an option for annual renewal to June 30, 1932. A supplementary agreement under date of Dec. 27, 1926, extended this option to June 30, 1937. To the Navy Department the lease of June 16, 1924, gives the option of continuing by annual renewals the use of the area to June 30, 1932.

#### *Reclamation of Flats*

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and Nov. 30, 1931, approximately 2,250,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1931, approximately 41,000 cubic yards were deposited upon flats northerly of Governors Island. The Commonwealth has reclaimed about 150 acres of land at East Boston.

The city of Boston, under license dated Oct. 14, 1930, authorizing dredging and filling, has reclaimed for the extension of the Boston Airport an area of approximately 38 acres.

By Chapter 271 of the Acts of 1931, the City of Boston was authorized "for the purpose of improving, extending and developing the Boston Airport" to borrow outside the statutory limit of indebtedness, from time to time, within a period of two years "such sums as may be necessary, not exceeding in the aggregate \$1,250,000." Under date of Oct. 20, 1931, license was granted by the Department to the City to build bulkheads, to fill solid and to dredge for the improvement, extension and development of the airport.

#### *Commonwealth Pier 1, East Boston*

Repairs to floating fender logs, fittings, and to the roof of the pier shed have been carried on during the year.

On Oct. 27, 1931, a contract was made with Michael Solimando for renewing fender piles, splicing foundation piles, replacing girder caps, wales, fender capping and deck planking in the platforms of the pier in locations designated by the engineer. This work is now in progress.

During the year the east and west docks of the pier have been used by the Eastern Steamship Lines, Inc., for steamers not in service.

#### JEFFRIES POINT DREDGING

On Jan. 28, 1931, hearing was held upon a petition of William H. Hearn for dredging in front of the Jeffries Yacht Club at Jeffries Point, East Boston.

A contract was made on June 9, 1931, with the Trimount Dredging Company to dredge the basin approximately 180 feet long and 70 feet wide to a depth of 6 feet at mean low water at the following contract prices: for dredging and disposing of the dredged material 69 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed July 1, 1931, at a contract cost of \$1,395.87.

## GRAND JUNCTION WHARVES OR CUNARD DOCKS

The dredging between the Cunard docks and the main ship channel under contract of July 15, 1930, with the Bay State Dredging and Contracting Company was completed Mar. 21, 1931, at a contract cost of \$31,979.04.

On Aug. 11, 1931, the contract of July 7, 1931, with the Bay State Dredging and Contracting Company was extended to include the dredging of an area between the outer ends of Commonwealth Pier 1 and Pier 2 of the Grand Junction Wharves and the main ship channel, to a depth of 35 feet at mean low water, at a contract price of 38.5 cents per cubic yard. As funds sufficient to complete the entire project were not available, work was discontinued Sept. 22, 1931. The dredging carried out was done at a contract cost of \$3,160.47.

## DREDGING OPPOSITE U. S. IMMIGRATION STATION

The dredging of a shoal area in front of the U. S. Immigration station at East Boston, under contract of Sept. 2, 1930, with the Bay State Dredging and Contracting Company was completed Mar. 26, 1931, at a contract cost of \$42,752.60.

## EAST BOSTON — ABANDONED HULKS

Chapter 465 of the Acts of 1931, Special Session, making appropriations for the employment of additional persons as a measure of relief during the present unemployment emergency, provides for an expenditure by the Department of Public Works of \$65,000 for removing abandoned hulks or wrecks lying along the water front of East Boston and in Chelsea Creek. This Act was approved Nov. 12, 1931.

These wrecks are for the most part hulks of dismantled vessels, grounded and abandoned years ago, constituting in many cases a menace to navigation and considered by the residents of East Boston unsanitary and dangerous to the health of the community.

The Department is preparing plans and specification for the work of removing these hulks.

## ATLANTIC AVENUE WATERFRONT DREDGING

The dredging of an area between the main ship channel and India, Central and Long Wharves under contract of July 15, 1930, with the Bay State Dredging and Contracting Company was completed Dec. 23, 1930, at a contract cost of \$20,097.

Hearing was held Jan. 28, 1931, upon petitions of the proprietors of Lewis, Long and Commercial Wharves and of the Eastern Steamship Lines, Inc., for a continuance of dredging along this waterfront from Fort Point Channel to Battery Wharf.

On July 7, 1931, a contract was made with the Bay State Dredging and Contracting Company for dredging in the following locations: An area 75 feet wide and 600 feet long in front of Foster's Wharf and Rowes Wharf to a depth of 20 feet at mean low water; an area off Pier 1 of the New York, New Haven and Hartford Railroad Company to a depth of 25 feet at mean low water; two areas off Central Wharf to a depth of 25 feet at mean low water; an area extending from Long Wharf to Union Wharf to a depth of 25 feet at mean low water. The contract prices for this work were: for dredging and disposing of dredged material, 38.5 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work was completed Sept. 22, 1931, at a contract cost of \$66,933.02.

## NEPONSET RIVER, BOSTON

The dredging in Neponset River, in front of property of the Frost Coal Company, under contract of Nov. 5, 1930, with the Bay State Dredging and Contracting Company, was completed Dec. 16, 1930, at a contract cost of \$1,186.22.

## SAVIN HILL BAY AND DORCHESTER BAY, DREDGING COULTER'S BEACH

The placing of sand and gravel at Coulter's Beach, Freeport Street, under contract of Nov. 25, 1930, with Henry R. Worthington, for the purpose of filling depressions and providing an even slope of beach, was completed Dec. 15, 1930, at a contract cost of \$4,106.52.



This work was made necessary by the dredging carried out in accordance with the provisions of Chapter 317 of the Acts of 1929.

#### HOUGH'S NECK, QUINCY, DREDGING

The dredging of a channel and basin at Hough's Neck under contract of Nov. 25, 1930, with the Bay State Dredging and Contracting Company, was completed Jan. 23, 1931, at a contract cost of \$14,987.14.

#### REPAIRS TO SEA WALLS, HULL AND QUINCY

An inspection made in the summer of certain sea walls on Boston Harbor showed the necessity for repairs to concrete masonry walls built by the Commonwealth in Hull and Quincy. A letter contract for this work was made Aug. 26, 1931, with P. J. Tuffey. Work under this contract, completed Oct. 28, 1931, included repairs to the sea wall at Hough's Neck, Quincy, at a cost of \$1,071.18, and to walls at Allerton Point, Pemberton Point and Stony Beach in Hull at a cost of \$543.40.

During these repairs it became apparent that a section of the wall at Stony Beach should be rebuilt and further repairs made to that wall and to the sea wall at Pemberton Point. On Nov. 10, 1931, a contract was made with Bradford Weston to construct about 55 linear feet of new sea wall and to place concrete footing under and in front of about 245 linear feet of existing sea wall at Stony Point, and to place concrete footing under and in front of about 175 linear feet of existing wall at Pemberton Point. The contract prices for this work are: for furnishing all labor and materials and constructing the new concrete sea wall, \$10 for each cubic yard of concrete measured in the completed work; for furnishing all labor and materials and constructing the concrete footings under and in front of existing walls, \$12 for each cubic yard of concrete measured in the completed work. This work is now in progress.

#### WINTHROP HARBOR DREDGING

Hearing was held Jan. 28, 1931, on a petition of the Winthrop Yacht Club and others for dredging a basin at the Yacht Club and a channel leading southerly to deep water. Statement was made at this time as to the interest of the town in the deposit of the dredged material for filling at the playground in process of construction at Point Shirley.

A contract was made on May 19, 1931, with the Saybrook Dredging Company to dredge the basin at the Winthrop Yacht Club approximately 900 feet long and 300 feet wide to a depth of 6 feet at mean low water and to deposit the dredged material as filling upon an area largely flats approximately 550 feet long and 350 feet wide belonging to the town at Point Shirley. The contract prices for this work are: for dredging and disposing of dredged material in disposal area specified, 55 cents per cubic yard measured in situ; for removing and disposing of boulders, \$15 per cubic yard. This work was completed Sept. 29, 1931, at a contract cost of \$31,851.05. Toward this cost a contribution of \$368 was made by the Winthrop Yacht Club, and a contribution of \$15,124 by the Town of Winthrop.

On Nov. 10, 1931, a contract was made with the Trimount Dredging Company to furnish labor, tools and equipment and to remove boulders from the basin of the Winthrop Yacht Club, Winthrop, at the following contract prices: for towing equipment and crew to the site of the work and returning same after completion, including all incidental expenses, the lump sum of \$95; for rental of floating plant, including lighter or dredge, tow boat, scows and all other necessary equipment including the crew to operate the equipment, supplies, repairs and all other incidental expenses, \$89 for each day of eight hours the equipment is used on the work; for each hour worked by the diver and tender including equipment and all incidental expenses connected therewith, \$5 for each hour employed on the work. This work is now in progress.

#### COTTAGE PARK CHANNEL, WINTHROP

Hearing was held Jan. 28, 1931, on petition of the Cottage Park Yacht Club for the dredging of a basin and a channel from the Clubhouse to the deeper channel in Boston Harbor.

On May 19, 1931, a contract was made with the North Atlantic Dredging Company to dredge to a depth of 7 feet at mean low water a channel approximately

120 feet wide and 900 feet long, and a basin approximately 250 feet wide and 500 feet long, at the following contract prices: for dredging and disposing of dredged material on the shore, 50 cents per cubic yard, measured in situ; for removing and disposing of boulders, \$20 per cubic yard.

This work was completed July 12, 1931, at a contract cost of \$15,585.00. Toward this cost a contribution of \$250 was made by the Cottage Park Yacht Club and one of \$5,000 by the town of Winthrop.

#### PLEASANT PARK YACHT CLUB

On Oct. 20, 1931, a contract was made with the Bay State Dredging and Contracting Company for dredging a basin about 120 feet long and 55 feet wide to a depth of 7 feet at mean low water at the Pleasant Park Yacht Club. The contract prices for this work are: for dredging basin and disposing of dredged material, \$1.08 per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard.

This work was completed Oct. 23, 1931, at a contract cost of \$1,499.04.

#### HAYWARD'S CREEK

In order to allow the widening of a part of East Howard Street in Quincy, to decrease traffic congestion, the Department on Oct. 14, 1931, conveyed to the city of Quincy a parcel of land near East Howard Street, to be used for highway purposes. This deed was given under the provisions of Chapter 135 of the Acts of 1927.

### RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$175,000 was made during 1931, with the following condition: —

“provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$30,000 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Annisquam River, Gloucester; Chatham Shore, Chatham; Cherry Island Bar, Revere; Cohasset Harbor, Cohasset; Connecticut River, West Springfield; East Bay, Barnstable; Lagoon Pond, Oak Bluffs and Tisbury; Lewis Bay, Barnstable; Long Beach, Rockport; Manchester Harbor, Manchester; Maraspin or Mill Creek, Barnstable; Marshfield Sea Walls, Marshfield; Newburyport Breakwater, Newburyport; Phinney's Harbor, Bourne; Rockport Harbor, Rockport; Scituate Sea Walls, Scituate; Smith's Cove, Gloucester; South River, Scituate and Marshfield; Waquoit Bay, Falmouth and Mashpee.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Cherry Island Bar, Revere; Connecticut River, West Springfield; Lagoon Pond, Oak Bluffs and Tisbury; Lewis Bay, Barnstable; Newburyport Breakwater, Newburyport; Phinney's Harbor, Bourne; Smith's Cove, Gloucester; South River, Scituate and Marshfield.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works and in the tables of the Appendix accompanying the present report. These reports



show localities, character of work, appropriations and expenditures by the Commonwealth, and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1931 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, follows:

#### ALLENS HARBOR, HARWICH

The work of building a timber fence about 100 feet long, of placing stone riprap in front of the fence and sand as back filling against it, and of despositing stone riprap along the easterly bank northerly of the east jetty, was completed Dec. 29, 1930, at a contract cost of \$2,783.92.

Hearing was held Jan. 28, 1931, on petition of E. Donald Dodge for dredging Allens Harbor. At this hearing the Selectmen asked, also, for an extension of the riprap protective work.

On Mar. 17, 1931, a contract was made with the Trimount Dredging Company for dredging a channel 60 feet wide on the bottom and 5 feet deep at mean low water, through the sand bars southerly of jetties at the entrance to Allens Harbor, and the removal of shoals between the jetties and extending into the basin, to a depth of 4 feet at mean low water. The contract prices for this work were: for dredging the channel through the sandbars southerly of the end of the west jetty and disposing of excavated material on marsh and flats, \$1.00 per cubic yard; for dredging the channel between the jetties and disposing of excavated material on marsh and flats, 40 cents per cubic yard. This work was completed Apr. 15, 1931, at a contract cost of \$4,000. Toward this cost a contribution of \$2,000 was made by the town of Harwich.

A letter contract was made June 16, 1931, with George W. Starbuck for rebuilding about 50 linear feet of the outer end of the westerly jetty for the lump sum of \$650. This work was completed July 3, 1931.

The extension of the protective work requested by the Selectmen has been provided for under contract of Nov. 24, 1931, with George W. Starbuck to furnish material and construct a timber fence about 75 feet long, to furnish and place about 70 tons of stone riprap in front of the timber fence, about 50 cubic yards of sand as backfilling against the completed fence, and about 80 tons of stone riprap in strengthening sections of the existing timber fence, at the following contract prices: for each linear foot of fence measured in place, including the furnishing of all labor and materials and the performance of all excavation, backfilling and incidental work, \$7.75; for each ton of riprap furnished and placed, including all grading and incidental work, \$4.00.

This work is now in progress. Toward the cost of this project a contribution of \$600 has been made by the town of Harwich.

Amount expended during the year, \$8,063.69. Total expenditure to Dec. 1, 1931, \$34,796.96.

#### CENTERVILLE RIVER, BARNSTABLE

The work of dredging a channel in Centerville River under contract of July 22, 1930, with the Trimount Dredging Company, was completed Sept. 1, 1931, at a contract cost of \$23,746.00.

During the dredging in this river a large number of stumps and logs were found within the limits of the channel. These obstructions were unexpected and not provided for by the terms of the contract. The contractor was able, however, to remove many of them and to excavate around those remaining, to a depth of 5 feet below mean low water.

After the completion of the work about 74 pieces of stump protruding above this plane interfered with the safe use of the channel and caused complaints to the Department.

Under a letter contract of Oct. 28, 1931, with Louis A. Byrne, these stumps were removed at a contract cost of \$1,575.00. This work was completed Nov. 25, 1931.

The dredging in this river has provided for boating a channel 5 feet deep at mean low water and 50 feet wide on the bottom, extending about 5,700 feet easterly from the foot bridge. In addition, considerable dredging has been done by owners of

property along the river. Many of these owners are now constructing piers at their premises to facilitate their use of the improved channel.

Amount expended during the year, \$35,810.93. Total expenditure to Dec. 1, 1931, \$44,093.52.

#### CHATHAM SHORE PROTECTION

Hearing was held Apr. 29, 1931, upon petition of the Selectmen of Chatham for the placing of riprap at the foot of Lighthouse Bluff and along the shore where severe erosion took place during the storms of Mar. 4. and 8, 1931.

On June 23, 1931, a contract was made with Joseph W. Nickerson for furnishing and placing about 5,000 tons of stone riprap at the foot of the bank east of Chatham Light, at a contract price of \$3.79 for each ton of 2,000 pounds in place in the completed work. Under this contract work was completed Aug. 28, 1931, at a contract cost of \$18,757.01. Toward this cost the town of Chatham made a contribution of \$10,500.

At the completion of the contract heavy stone riprap and chips had been placed for the protection of the bank for a distance of 1,300 feet.

Amount expended during the year, \$19,813.19. Total expenditure to Dec. 1, 1931, \$19,813.19.

#### COHASSET HARBOR, COHASSET

Hearing was held Jan. 28, 1931, on petition of the Selectmen of Cohasset for dredging in Cohasset Harbor.

A contract was made on Sept. 8, 1931, with the Bay State Dredging and Contracting Company to dredge four areas in Cohasset Harbor, one to a depth of 8 feet, the others to a depth of 6 feet at mean low water. The work was done by the hydraulic method at the following contract prices: for dredging and disposing of the excavated material on the marsh and flats by hydraulic process, 48 cents per cubic yard measured in place; for removing and disposing of boulders, \$20 per cubic yard.

This work was completed Oct. 19, 1931, at a contract cost of \$18,374.40. Toward this cost a contribution of \$5,000 was made by the town and of \$4,000 by the Cohasset Yacht Club and by individuals interested in the dredging.

Amount expended during the year, \$16,371.33. Total expenditure to Dec. 1, 1931, \$113,435.77.

#### EAST BAY, BARNSTABLE

Hearing was held on Jan. 28, 1931, on petition of the Selectmen of Barnstable for dredging in East Bay.

A contract was made on May 26, 1931, with the Trimcunt Dredging Company for dredging a channel at the entrance of Centerville River to a width of 50 feet on the bottom and to a depth of 5 feet at mean low water, and for dredging the entrance channel to East Bay to a width of 60 feet on the bottom and a depth of 6 feet at mean low water. The contract prices for this work were: for dredging and disposing of excavated material upon the marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 35 cents per cubic yard, measured in place; for removing and disposing of boulders, \$10 per cubic yard. The dredging was completed Aug. 27, 1931, at a contract cost of \$7,094.15. Toward this cost a contribution of \$4,000 was made by the town of Barnstable.

The dredging done in the entrance to East Bay and in the channel extending easterly from the basin in the bay to the footbridge, a distance of 2,400 feet, has provided a connection with the channel in Centerville River, so that boats may now pass from a point near the head of Centerville River, through the dredged channel and into Nantucket Sound. The minimum depth of this channel is 5 feet at mean low water and its minimum width 40 feet on the bottom.

#### GREEN HARBOR, MARSHFIELD

The building of the timber fence on the westerly side of the west jetty at the harbor entrance, under contract of Oct. 14, 1930, with Owen W. Duffy was completed Jan. 3, 1931, at a contract cost of \$4,069.75.



On Apr. 28, 1931, contract was made with the Trimount Dredging Company for dredging by hydraulic process a channel and basin to a depth of 6 feet at mean low water at Green Harbor, Marshfield, at the following contract prices: for dredging channel and basin and disposing of the excavated material on land and marsh, including the construction of the necessary dikes, 41.4 cents per cubic yard; for removing and disposing of boulders, \$20 per cubic yard. This work was completed Oct. 5, 1931, at a contract cost of \$34,500.28.

A contract was made Apr. 28, 1931, with Thomas Whalen & Sons, Inc., for the rebuilding of the two stone jetties at the entrance to Green Harbor, the construction of about 450 linear feet of timber fence westerly of the westerly jetty, and of about 196 linear feet of concrete wall at the inshore end of the easterly jetty. The contract prices for this work were: for each ton of riprap or stone chips furnished and placed in the completed work, including all incidental work, \$3.20; for each linear foot of timber fence measured in place, including the furnishing of labor and materials, and the performance of all excavation, backfilling and incidental work, \$6.00; for each cubic yard of concrete measured in place in the completed work, including all forms, excavation and incidental work, \$14. This work was completed July 23, 1931, at a contract cost of \$23,406.18.

Toward the cost of the dredging and of the rebuilding of the jetties, under the two contracts of Apr. 28, 1931, a contribution of \$30,000 was made by the town of Marshfield.

In July requests were received from the Selectmen and from individuals for additional dredging in the harbor. On Oct. 6, 1931, a contract was made with the Trimount Dredging Company for dredging by hydraulic process a channel 6 feet deep at mean low water and 75 feet wide on the bottom, at the following contract prices: for dredging channel and disposing of the excavated material on the upland and marsh out of tide water within areas approved by the Department, 38 cents for each cubic yard measured in place; for removing and disposing of all boulders, \$20 for each cubic yard.

This work was completed Nov. 14, 1931, at a contract price of \$19,760. Toward the cost of this dredging a contribution of \$5,000 was made by the town and one of equal amount by individuals interested in the improvement.

During the year the dredging carried on has provided a channel six feet deep at mean low water and 75 feet wide on the bottom, extending from the 6-foot contour in Cape Cod Bay for a distance of about 2,200 feet to a small anchorage basin, and a channel of the same depth and width extending from the anchorage basin northerly for a distance of about 1,200 feet to a point about 700 feet southerly of the dike across the head of the river. The jetties at the river entrance have been reinforced by the construction of a timber bulkhead and a concrete wall, and by the placing of riprap.

Amount expended during the year, \$79,476.21. Total expenditure to Dec. 1, 1931, \$158,513.16.

#### GUN ROCK — GREEN HILL SEA WALL, HULL

An inspection made in September of the sea wall showed a section of the structure at Green Hill broken at the top for a length of about 40 feet to a depth varying from two to three feet. A letter contract for the repair of the wall was made with Frank H. Barry on Oct. 6, 1931. The work was completed Oct. 19, 1931, at a contract cost of \$376.23.

Amount expended during the year, \$319.80. Total expenditure to Dec. 1, 1931, \$78,259.13.

#### HERRING RIVER, HARWICH

The work of dredging a channel in Herring River from the 6-foot contour in Nantucket Sound to the steel highway bridge over the river, under contract of Aug. 26, 1930, with the Trimount Dredging Company, was completed Jan. 10, 1931, at a contract cost of \$52,852.50. Contributions amounting to \$25,600 were made in 1930 toward the cost of this dredging.

The dredging of an anchorage basin below the Lower County Bridge, under contract of Nov. 25, 1930, with the Trimount Dredging Company, was completed Jan. 7, 1931, at a contract cost of \$8,000. Toward this cost a contribution of \$4,000 was made in 1930.



In January of this year additional dredging in the entrance channel of the river was requested. A contract was made on Feb. 17, 1931, with the Trimount Dredging Company for dredging the entrance channel of Herring River to depths of from 8 feet to 10 feet at mean low water and to widths varying on the bottom from 40 feet to 100 feet. The contract price for dredging the channel and disposing of the excavated material on marsh and flats adjacent to the work, including the construction of the necessary dikes, was thirty cents for each cubic yard. This work was completed Mar. 2, 1931, at a contract cost of \$7,583.40. Toward this cost a contribution of \$2,000 was made by William H. Doble and one of an equal amount by the town of Harwich.

The dredging in Herring River has provided a channel 3,050 feet long, 6 feet deep at mean low water and 60 feet wide on the bottom, extending from the 6-foot contour in Nantucket Sound to the Lower County Bridge, and a channel of the same depth and width, 3,750 feet long, extending from the Lower County Bridge to the main highway bridge over the river. A basin dredged southerly of the Lower County Bridge affords anchorage for boats drawing not more than 6 feet of water.

Amount expended during the year, \$45,383.82. Total expenditure to Dec. 1, 1931, \$131,384.96.

#### LAKE ANTHONY, OAK BLUFFS

Hearing was held Jan. 28, 1931, on petition of the Selectmen of Oak Bluffs for dredging in Lake Anthony.

A contract was made Apr. 28, 1931, with the Bay State Dredging and Contracting Company for dredging two areas in Lake Anthony to a depth of 7 feet and 8 feet, respectively, at mean low water, at the following contract prices: for dredging and disposing of dredged material, 42 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work was completed June 24, 1931, at a contract cost of \$19,012.14. Toward this cost a contribution of \$10,000 was made by the town of Oak Bluffs.

The completion of this dredging provides in Lake Anthony an anchorage area of about 13 acres with a depth of 7 feet at mean low water, and a channel and basin with an area of 3.6 acres and a depth of 8 feet at mean low water.

Amount expended during the year, \$21,880.27. Total expenditure to Dec. 1, 1931, \$97,411.51.

#### LONG BEACH, ROCKPORT

In March request was received from the Selectmen of Rockport for assistance in the protection of Long Beach where, during the storm of Mar. 4, 1931, a timber bulkhead about 3,300 feet long, owned by the town, was completely destroyed. An examination was made of the beach and an estimate of the cost of a timber bulkhead and concrete sea wall.

By Item 625e of Chapter 460 of the Acts of 1931, an appropriation of \$25,000 was made for protective work at this beach upon condition that a contribution of an equal amount be made by the Town.

On Aug. 17, 1931, the contribution of \$25,000 was received from the Town of Rockport. A contract was made Aug. 18, 1931, with George W. Nicoll Co., Inc., for building a concrete sea wall about 3,300 feet long at Long Beach, at a contract price of \$11.20 for each cubic yard of concrete measured in place in the completed work. This work was completed Nov. 15, 1931, at a contract cost of \$48,463.52.

Amount expended during the year, \$43,125.74. Total expenditure to Dec. 1, 1931, \$43,125.74.

#### MANCHESTER HARBOR, MANCHESTER

Hearing was held Jan. 28, 1931, upon petition of the Selectmen of Manchester for dredging in Manchester Harbor.

On Apr. 28, 1931, a contract was made with the Bay State Dredging and Contracting Company for dredging four areas in Manchester Harbor, one to a depth of 6 feet below mean low water, and three to a depth of 8 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material, 56 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. The work was completed Aug. 25, 1931, at a contract cost of \$12,495.84. Toward this cost a contribution of \$6,500 was made by the town of Manchester.



There is now available in Manchester Harbor a main channel 8 feet deep at mean low water extending from the 6-foot contour in the bay to the railroad bridge. The outer portion of the channel for a distance of 3,500 feet has a width of 100 feet on the bottom, and the inner portion for a distance of 2,000 feet has a width of 75 feet.

A section of channel 8 feet deep at mean low water, 50 feet wide on the bottom and 600 feet long has been provided on the easterly side of Bow Bell Ledge. With vessels entering the harbor the use of this channel is optional, as it connects at each end with the wider channel. Anchorage basins adjacent to the main channel have been dredged to a depth of 6 feet at mean low water over an area of 20.5 acres.

Amount expended during the year, \$13,398.56. Total expenditure to Dec. 1, 1931, \$189,694.04.

#### MARASPIN OR MILL CREEK, BARNSTABLE

Hearing was held Jan. 28, 1931, upon petition of the Selectmen of Barnstable for dredging in Maraspin Creek.

On May 5, 1931, a contract was made with the Bay State Dredging and Contracting Company to dredge a channel in Maraspin Creek to a width of 60 feet on the bottom and a depth of 6 feet at mean low water at the following contract prices: for dredging and disposing of the dredged material on marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 40 cents per cubic yard, measured in place; for removing and disposing of boulders, \$20 per cubic yard. This work was completed July 3, 1931, at a contract cost of \$11,574. Toward this cost a contribution of \$5,000 was made by the town of Barnstable.

This dredging has provided a channel 2,250 feet long, 6 feet deep at mean low water and 60 feet wide on the bottom, extending from the 6-foot contour in Barnstable Bay to a point near the town landing. This channel affords access for the fishing boats to the cold storage plant and greatly facilitates the handling of fish at the plant.

Amount expended during the year, \$12,138.52.

#### MARSHFIELD SEA WALLS

The work of placing about 300 tons of heavy stone riprap and 100 tons of stone chips to protect about 125 feet of bank and timber bulkhead at Brant Rock, under contract of Nov. 25, 1930, with Philip B. Oakman, was completed Dec. 10, 1930, at a contract cost of \$2,500.

By the storm of Mar. 4, 1931, a section of the granite sea wall southerly of Brant Rock was undermined and seriously damaged. Under a letter contract dated Apr. 22, 1931, with Philip B. Oakman, a concrete foundation was placed under this wall, the stone work dislodged by the sea was replaced, and additional riprap deposited in front of the wall. The work was completed June 6, 1931, at a contract cost of \$5,938.19. Toward this cost a contribution of \$1,560.04 was made by the town of Marshfield, and one of equal amount by the County of Plymouth.

The necessity for repairing damages caused by severe storms along the Marshfield shore was brought to the attention of the Legislature by County and Town officials during the winter. To provide for protective work in Marshfield, Chapter 407 of the Acts of 1931 was passed in June, 1931.

This act authorizes an expenditure of not exceeding \$200,000 for the construction of a sea wall and the placing of riprap, upon condition that no work is done until the Town assumes liability for damages, and pays into the State Treasury the sum of \$66,666 and until the County so pays the sum of \$33,334. The act requires also an acceptance by vote of the County Commissioners of Plymouth County and by the Town of Marshfield in town meeting.

Certified copies of the votes of the Town and of the County Commissioners accepting the provisions of the Act were filed with the Department in July and August, the payments into the State treasury were made by the Town and County in August, and a certified vote of the Town of Marshfield submitted, assuming liability for damages.

Under the provisions of this act various contracts have been made for protective work along the Marshfield shore.

Under letter contract of Aug. 27, 1931, with Philip B. Oakman, the sea wall at Brant Rock easterly of Ocean Avenue was repaired by constructing concrete foot-



ings, a concrete face and replacing sections of the wall with concrete. The work was completed Nov. 20, 1931, at a contract cost of \$18,786.61.

A contract was made Sept. 15, 1931, with Raymond A. Bergesson to furnish and place about 4,000 tons of heavy stone riprap and 3,000 tons of stone chips to protect about 2,000 linear feet of bank, timber bulkhead and concrete sea wall at Brant Rock, east of Ocean Avenue and south of Shepard Street, at the following contract price: for each ton of riprap and chips furnished and placed in the completed work, including the removal of remains of old timber bulkheads, storing of material and other incidental work, the sum of \$2. This work is now in progress.

On Sept. 15, 1931, a contract was made also with Louis B. Cadario and Sons to build about 4,716 linear feet of concrete sea wall with return walls 25 feet long, concrete apron and wing walls, about 650 linear feet of riprap and 82 concrete jetties, on the beach south of Fieldston. The contract prices are: for furnishing materials and constructing the concrete sea wall and jetties, including all excavation, back filling and incidental work, \$7.48 for each cubic yard of concrete measured in the completed work; for furnishing materials and constructing concrete apron and wing walls, including all excavation, back filling and incidental work, the lump sum of \$1,250 for the completed work; for furnishing and placing heavy stone riprap, including all excavation and incidental work, \$3 for each ton of 2,000 pounds in place in the completed work. This work is now in progress.

After work was begun upon the wall at Fieldston it was found necessary to drive piling for foundations at sections where soft peat was encountered. The driving of the necessary piling, under letter contract of Sept. 30, 1931, with George W. Starbuck was completed Nov. 25, 1931, at a contract cost of \$3,809.04.

Requests were made as the work went on for an opening in the wall at the end of Beach Avenue. This opening and ramp were built by the contractor for the lump sum of \$1,570.

Amount expended during the year, \$103,997.79. Total expenditure to Dec. 1, 1931, \$130,425.45.

#### MENAMSHA INLET, CHILMARK AND GAY HEAD

An inspection made in September at Menamsha inlet and basin showed considerable damage by the March storm to the outer beach separating the waters of Vineyard Sound from the basin. A section of sea wall was broken, riprap washed down, filling back of the wall carried away and erosion was advancing rapidly on the westerly side of the entrance channel where the old timber bulkhead has disintegrated.

On Nov. 3, 1931, a contract was made with Merritt-Chapman and Scott Corporation for furnishing and placing about 2,900 tons of stone riprap and chips and about 340 cubic yards of sand fill in three separate locations at Menamsha Inlet in Chilmark and Gay Head, at the following contract prices: for each ton of riprap or stone chips furnished and placed in the completed work, including all incidental work, \$4.19; for furnishing and placing 340 cubic yards of fill, including all incidental work, the lump sum of \$300. This work is now in progress.

Amount expended during the year, \$105.05. Total expenditure to Dec. 1, 1931, \$117,097.16.

#### NEW BEDFORD STATE PIER

The larger portion of this pier has been, since September, 1927, under lease to the Lamport Manufacturing Supply Company, Inc.

The lease provides for the use by the Company of a specified portion of the pier for a period of ten years beginning Sept. 1, 1927, at a rental of \$6,000 per year for the first five years, and of \$10,000 per year for the five years following. The Company agrees by the terms of the lease to provide reasonable facilities for vessels desiring to use the present unenclosed area of the pier for water-borne commerce, as well as reasonable accommodation for loading and unloading cargo. The charges made for such uses of the pier are to be those established by the Department, effective since July 15, 1925.

By Item 625a of Chapter 460 of the Acts of 1931, an appropriation of \$50,000 was made for building an addition and for improvements to the State Pier. Under the provisions of this Act two contracts were made in July for work at the pier.

On July 14, 1931, a contract was made with Frank C. Taylor for furnishing all



necessary material and labor for the construction of a pile and timber platform about 565 feet long and 40 feet wide on the north side of the State Pier at New Bedford, at unit prices. The work was completed Nov. 23, 1931, at a contract price of \$49,078.03.

A contract was made on July 14, 1931, with P. J. McNally and Sons for the construction of an opening 14 feet wide and 15 feet high through the Immigration Shed at the New Bedford State Pier to provide an approach to the timber platform, and for laying concrete pavement in the adjacent driveway and yard. The contract prices for this work were: for furnishing all labor, materials and equipment necessary to make alterations to the immigration shed, the lump sum of \$839; for concrete pavement laid in driveway and approach, \$2.26 per square yard of concrete measured in place in completed work. This work was completed Sept. 1, 1931, at a contract cost of \$2,062.79.

The completion of the pile and timber platform adds materially to the facilities at the pier for handling cargoes, particularly cotton, which may now be unloaded directly from vessel to truck and taken from the pier to mill or warehouse. This direct loading was not practicable at the pier before the construction of this addition.

Although the platform was not completed until Nov. 23, 1931, requests were made for docking of vessels before that date and the first cargo was actually discharged Nov. 7-8. Since that time the platform has been used to its full capacity.

Minor repairs to the pier have been carried on during the year.

Amount expended for operation, maintenance and improvement during the year, \$46,728.86.

Income during the year, \$6,000.00.

Total expenditure for operation, maintenance and improvement to Dec. 1, 1931, \$99,917.41.

#### OAK BLUFFS SEA WALLS

The Selectmen of Oak Bluffs immediately after the storm of Mar. 8, 1931, called the attention of the Department to the damage resulting to a section of concrete wall easterly of the entrance to Lake Anthony. A length of wall of about 60 feet was undermined by this storm and moved forward. As this structure affords protection to the inshore end of the easterly jetty at the entrance to Lake Anthony, its condition was a menace to the security of other improvements by the Commonwealth at Lake Anthony.

On Sept. 1, 1931, a contract was made with Joseph W. Nickerson to straighten about 50 linear feet of concrete sea wall, to place a concrete footing under the wall and a concrete capping on top of about 150 linear feet of sea wall at the entrance to Lake Anthony. The contract prices for the work were: for furnishing labor and equipment and straightening the existing concrete sea wall, the lump sum of \$200; for furnishing each bag of Portland cement used in the concrete, including all form work, sand, gravel, excavation and backfilling, and all incidental work in connection with placing the concrete footings and cap on the wall, \$3.33. This work was completed Oct. 3, 1931, at a contract cost of \$1,288.91.

Amount expended during the year, \$1,396.85. Total expenditure to Dec. 1, 1931, \$141,077.77.

#### COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$4,000 was made by the Legislature this year for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The work of building concrete and gravel walks and setting granite curbing on the driveway to the State Pier, under contract of Nov. 25, 1930, with Domenik Romano was completed Dec. 15, 1930, at a contract cost of \$1,158.79.

A letter contract was made June 9, 1931, with the Bay State Dredging and Contracting Company for driving four piles on the outer face of the State Pier and fitting a section of timber fender. This work was completed June 15, 1931, at a contract cost of \$200.

On Nov. 17, 1931, a letter contract was made with the Beattie Corporation for repairs to the canopy over Plymouth Rock. This work is now in progress.

Amount expended during the year, \$4,713.89. Total expenditure to Dec. 1, 1931, \$40,400.97.



## PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for the use of the Province Lands. One employee of the Department has been kept at work during the summer to maintain this park in proper condition.

## ROCKPORT HARBOR, ROCKPORT

Hearing was held Jan. 28, 1931, upon petition of the Selectmen of Rockport, and others, for dredging two areas in Rockport Harbor.

A contract was made May 19, 1931, with the Bay State Dredging and Contracting Company for dredging two areas in Rockport Harbor, one north of "T Wharf" approximately 150 feet wide by 300 feet long with an approach channel 35 feet wide and 150 feet long; the other an irregular area south and east of "T Wharf," approximately 100 feet wide by 900 feet long. The contract prices for this work were: for dredging and disposing of dredged material, 50 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. The work was completed Aug. 4, 1931, at a contract cost of \$16,088.50.

Toward the cost a contribution of \$4,250 was made by the town of Rockport.

Amount expended during the year, \$17,177.18. Total expenditure to Dec. 1, 1931, \$32,897.46.

## SCITUATE SEA WALLS

*First Cliff.* Hearing was held Jan. 28, 1931, upon petition of the Selectmen of Scituate and others for repairs at First Cliff at the inshore end of the jetty.

Under letter contract of June 16, 1931, with John J. Johnson, 200 tons of stone riprap were placed at the northerly end of First Cliff and at the inshore end of the southerly jetty at the entrance to Scituate Harbor at a contract cost of \$863.84. Toward this cost a contribution of \$500 was made by the town of Scituate.

*North Scituate.* Under letter contract of Apr. 7, 1931, with Frank H. Barry, repairs were made to the section of sea wall off Surfside Avenue at a contract cost of \$729.81. Toward this cost a contribution of \$437.08 was made by the town of Scituate.

*Third Cliff.* The riprap placed in previous years for the protection of the shore at Third Cliff was damaged by the storm of Mar. 4, 1931. In some of the areas affected, additional riprap is required, but in others adequate protection could be provided by returning the dislodged stone to its former position. Under a letter contract with Frank H. Barry, dated July 3, 1931, the work of replacing the dislodged riprap within certain areas was completed Aug. 15, 1931, at a contract cost of \$1,003.87.

*Work Under Special Legislation*

Hearings were held Jan. 28, 1931, upon petitions of the Selectmen of Scituate for the extension of sea walls at Sand Hills and Cedar Point and for the building of a new sea wall along the beach near the wreck of the old pilot boat "Columbia."

By Chapter 424 of the Acts of 1931 the Department was authorized to expend for the extension of sea walls and other shore protection in Scituate a sum not exceeding \$75,000, upon condition that no work should be begun until the town voted to accept the provisions of the Act, assumed liability for damages and paid into the treasury of the Commonwealth \$25,000, and until the County Commissioners of Plymouth County voted to accept the Act and paid into the treasury of the Commonwealth, \$12,500.

In July and August the Selectmen and the County Commissioners filed certified copies of the votes accepting the provisions of the statute, and paid the required sums into the State treasury. The Town of Scituate also voted to assume all liability for damages.

Under authority of this act work has been carried out for the construction, extension and repair of sea walls in Scituate, and for riprap protection of the shore, as follows:

*Cedar Point*

On Aug. 11, 1931, a contract was made with Crowley and Downey for building 284 linear feet of concrete sea wall at Cedar Point at a contract price of \$9.90 for



each cubic yard of concrete measured in place in the completed work. This work was completed Oct. 7, 1931, at a contract cost of \$3,406.89.

#### *Humarock Beach*

On Aug. 11, 1931, a contract was made with the Atwood-Thomas Construction Company for building about 1,385 linear feet of concrete sea wall with a return wall 25 feet long and twenty-six concrete jetties, at Humarock Beach, at the following contract prices: for furnishing materials and constructing the concrete sea wall and jetties, including all incidental work, \$9.20 for each cubic yard of concrete measured in the completed work; for furnishing and placing 4-inch yellow pine plank for openings in concrete wall, including the cost of materials, labor and all incidental work, ten cents for each board foot of lumber in place in the completed work. This work was completed Nov. 10, 1931, at a contract cost of \$25,114.16.

#### *North Scituate*

A contract was made Aug. 18, 1931, with Thomas Joseph McCue to build 8 concrete jetties and about 600 linear feet of concrete sea wall in two sections with an opening in one of the walls for the passage of vehicles. The contract prices for this work were: for furnishing material and constructing concrete sea walls and jetties, including all excavation, backfilling and incidental work, \$10 for each cubic yard of concrete measured in the completed work; for furnishing lumber for and placing the same in the opening in the concrete wall, including all fitting and incidental work, 5 cents for each foot board measure of lumber in place in the completed work.

This work was completed Nov. 28, 1931, at a contract cost of \$10,659.13.

#### *Sand Hills*

On Aug. 4, 1931, a contract was made with Crowley and Downey for the construction of about 312 linear feet of concrete sea wall, with an opening for the passage of vehicles, at the Sand Hills near the wreck of the Pilot Boat "Columbia" at the following contract prices: for furnishing materials and constructing the concrete sea wall, including all incidental work, \$10.02 for each cubic yard of concrete measured in the completed work; for furnishing all equipment and labor, the removal of timber bulkheads, the wreck of the Pilot Boat "Columbia" and the disposal of the same and all incidental work, the lump sum of \$400; for furnishing 4-inch yellow pine plank, including the cost of materials, labor and all incidental work, the lump sum of \$50. This work was completed Oct. 1, 1931, at a contract cost of \$5,127.54.

A contract was made Oct. 6, 1931, with Crowley and Downey for the construction of a concrete sea wall and six concrete jetties at the northwesterly end of the Sand Hills, at the following contract prices: for furnishing material and constructing the concrete sea wall, including all incidental work, \$9.90 for each cubic yard of concrete measured in the completed work; for furnishing materials and constructing six concrete jetties, including all incidental work, \$9.90 for each cubic yard of concrete measured in the completed jetties. This work was completed Nov. 10, 1931, at a contract cost of \$5,252.95.

A contract was made on Oct. 27, 1931, with Thomas Joseph McCue for placing a concrete top, face and footing on an existing concrete sea wall at the Sand Hills, and the construction of about 378 feet of wall along the shore of Scituate Harbor at Cedar Point and the repairing of about 120 feet of existing sea wall in the vicinity. The contract prices for this work were: for furnishing material and constructing the concrete top, face, footing and jetties, \$8.70 per cubic yard of concrete measured in the completed work; for furnishing  $\frac{3}{4}$ " twisted steel reinforcing rods, four cents per pound; for furnishing material and constructing the new wall at Cedar Point and for repairing the existing wall, \$8.70 per cubic yard of concrete measured in the completed work.

This work was completed Dec. 19, 1931, at a contract cost of \$8,455.01.

#### *Third Cliff*

On Aug. 25, 1931, a contract was made with John P. Cavanagh for placing about 2,000 tons of heavy stone riprap to protect the face of a portion of the bluff at



Third Cliff. The contract price for furnishing and depositing the stone is \$2.24 per ton. This work is now in progress.

Amount expended for sea walls and other work of shore protection in Scituate during the year, \$59,978.02. Total expenditure to Dec. 1, 1931, \$384,296.47.

#### TAUNTON RIVER IMPROVEMENT

Chapter 405 of the Acts of 1930 provides:

"The department of public works may expend, from such appropriation as may hereafter be made, a sum not exceeding seventy thousand dollars, in addition to the sum of thirty thousand dollars hereinafter referred to, for the improvement for navigation of that part of the Taunton river extending from the city of Fall River to Weir village in the city of Taunton, and for payment for land purchased or taken, for land damages and other rights, and for the privilege of depositing material on land and flats of and adjoining said river; provided, that no part of said sums shall be available or expended until the congress of the United States shall approve a project, and make appropriation therefor, to improve that part of said river extending as aforesaid, by the construction therein of a continuous channel to a depth of at least twelve feet at mean low water; and provided, further, that no expense shall be incurred hereunder until said city of Taunton shall have contributed the sum of thirty thousand dollars toward the cost of the improvement herein authorized and shall have paid such sum into the state treasury, nor until said city of Taunton shall have agreed with said department to construct and/or maintain, as directed and approved by said department, a suitable wharf or terminal in connection with such improvement."

The project for the improvement of this river by the Federal Government was adopted by Act of Congress approved July 3, 1930, requiring that local interests shall provide, without expense to the United States, a suitable turning basin near the head of navigation and suitable bulkheaded areas for spoil disposal.

By order adopted by the Municipal Council of Taunton Feb. 10, 1931, approved by the Mayor Feb. 13, 1931, the sum of \$30,000 was appropriated by the city for its share of the cost of the improvement. On Feb. 17, 1931, the Municipal Council voted to provide any additional funds required for the turning basin and spoil areas. This vote was approved by the Mayor Feb. 18, 1931.

The Municipal Council of Taunton voted, also, on Feb. 24, 1931, to make such improvements in the existing municipal wharf as may be necessary to satisfy the requirements of the Department in accordance with the provisions of Chapter 405 of the Acts of 1930. This vote was approved by the Mayor on Feb. 25, 1931.

Chapter 245 of the Acts of 1931 made an appropriation of \$70,000 to carry into effect the provisions of Chapter 405, Acts of 1930.

Proposals for dredging in Taunton River to a depth of 12 feet at mean low water, a channel generally 100 feet wide from a point about 1,600 feet above the railroad bridge across the river at Somerset up to a point about 1,100 feet above Cobb's Wharf, Dighton, a total distance of about 17,100 feet, were received by the District Engineer, U. S. A., at Providence on June 15, 1931. The contract was awarded to the Atlantic Gulf & Pacific Company and this portion of the project has been completed. It is expected that work will be continued in 1932 and completed in 1933.

#### WAQUOIT BAY, FALMOUTH AND MASHPEE

Hearing was held Jan. 28, 1931, upon petitions of the Selectmen of Falmouth, and others, for rebuilding and raising the height of the breakwater and for dredging in Waquoit Bay.

A contract was made on June 9, 1931, with the Bay State Dredging and Contracting Company for dredging a channel from Nantucket Sound into Waquoit Bay, about 5,000 feet long, 60 feet wide on the bottom and 6 feet deep at mean low water, and for rebuilding the stone jetty at the entrance to the bay. For this work the contract prices were: for dredging and disposing of the excavated material on marsh and flats by the hydraulic process, including the construction of the necessary dikes and sluices, 25 cents per cubic yard measured in place; for removing and disposing of all boulders, \$20 per cubic yard; for riprap or stone chips furnished and placed in the completed work, \$6.70 per ton.



This work was completed Sept. 2, 1931, at a contract cost of \$33,820.67. Toward this cost a contribution of \$15,000 was made by the town of Falmouth and of \$500 by the town of Mashpee.

The dredging of the channel and the strengthening of the jetty has provided better facilities for navigation and increased normal range of tides about one foot. This increase materially improves the drainage of low areas around the bay, and creates better conditions for shellfish.

Amount expended during the year, \$35,889.90. Total expenditure to Dec. 1, 1931, \$93,314.40.

#### WEST HARWICH SHORE, HARWICH

An inspection made in April of the wire fence built last year showed considerable damage by storm. Under a letter contract of Apr. 30, 1931, with Louis A. Byrne, repairs were made to this fence for the lump sum of \$385.

Requests from the Selectmen and from owners of shore property were received during the summer for further protection along this shore. In the opinion of the Department the results desired can be attained by the building of from fifteen to twenty short jetties at intervals along the beach. This requires an expenditure estimated at \$25,000.

The town of Harwich is unable at present to make the necessary contribution of one-half the cost of the entire project, but has asked that a part of the work be done as soon as possible and has made a contribution of \$2,500 for the purpose. Specifications for the construction of four stone jetties are now being prepared.

Amount expended during the year, \$385. Total expenditure to Dec. 31, 1931, \$20,813.30.

#### WESTPORT HARBOR, WESTPORT

An inspection made in July of the breakwater built by the Commonwealth at the entrance to Westport Harbor showed that the greater part of the structure has settled two or three feet. A survey made in October revealed changes in the harbor depth indicating that the breakwater has resulted in the improvement of the harbor for purposes of navigation.

On Nov. 3, 1931, a contract was made with George W. Starbuck for furnishing and placing about 400 tons of stone riprap and chips in the stone jetty on the westerly side of Westport Harbor, at a contract price of \$5.40 for each ton of riprap or stone chips furnished and placed in the completed work. This work is now in progress.

Amount expended during the year, \$472.62. Total expenditure to Dec. 1, 1931, \$19,497.69.

#### WILD HARBOR, FALMOUTH

The work of dredging the entrance channel and anchorage basin in Wild Harbor, under contract of May 6, 1930, with the Trimount Dredging Company, was completed Dec. 15, 1930, at a contract cost of \$17,718.79.

This harbor has now an entrance channel 700 feet long, 60 feet wide on the bottom and 6 feet deep at mean low water, and an anchorage basin of the same depth with an area of 2.7 acres.

Amount expended during the year, \$4,777.30. Total expenditure to Dec. 1, 1931, \$55,128.66.

#### WITCHMERE HARBOR, HARWICH

The work of dredging the entrance channel to Witchmere Harbor, under contract of Nov. 5, 1930, with William E. Burke was completed Dec. 10, 1930, at a contract cost of \$5,241.60.

During the progress of the work requests were received for the dredging of the bar southerly of the entrance channel. Under a letter contract of Jan. 8, 1931, with William E. Burke this work was completed Jan. 27, 1931, at a contract cost of \$1,999.80. Toward this cost a contribution of \$500 was made by individuals interested in the improvement.

Amount expended during the year, \$7,620.41. Total expenditure to Dec. 1, 1931, \$63,415.54.

#### MISCELLANEOUS

##### GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888.

This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Baddacook Pond, Groton; Benson's Pond, Middleborough; Benton Pond, Otis; Big Sandy Pond, Plymouth; Cedar Pond, Carver; Cedar Pond, Lynn; Crystal Lake, Newton; Dunham Pond, Carver; Forge Pond, Granby; Great Herring Pond, Plymouth; Great Indian Pond, Plympton and Kingston; Lake Nipmuc, Mendon; Lake Nippinicket, Bridgewater; Lake Quannapowitt, Wakefield; Lake Tashmoo, Tisbury; Lake Winthrop, Holliston; Little Sandy Pond, Plymouth; Maquan Pond, Hanson; Nine Mile Pond, Wilbraham; Oyster Pond, Edgartown; Santuit Pond, Mashpee; Sherman Lake, Brimfield; Silver Lake, Wilmington; Simon's Pond, Sandisfield; Sippowisset Pond, Falmouth; South Cotuit Pond, Barnstable; White Island Pond, Plymouth; Whites Pond, Plymouth.

During the year surveys of the following great ponds have been made:

*Batemans Pond, Concord*

Area at time of survey . . . . .	19.64 acres
Area includes about 2 acres which has been excavated to enlarge pond.	
Area of natural pond not determined. Maximum depth, 11.8 feet.	

*Laurel Lake, Lee-Lenox*

Area at time of survey . . . . .	151.32 acres
Area of natural pond . . . . .	110.87 acres
Area of flowed pond . . . . .	169.82 acres
The natural pond area is divided between the two towns as follows: —	
92.95 acres in Lee	
17.92 acres in Lenox	
Maximum depth, 50.8 feet.	

*Benton or Parish Pond, Otis*

Area of pond at time of survey . . . . .	59.33 acres
Natural pond area . . . . .	59.33 acres
Area of island in pond . . . . .	0.15 acres
Maximum depth . . . . .	28.0 feet

*Clamshell Pond, Clinton*

Area of pond at time of survey . . . . .	26.46 acres
Natural pond area . . . . .	26.46 acres
Maximum depth . . . . .	27 feet

ACCESS TO GREAT PONDS

During the year two petitions relative to access to great ponds have been considered in accordance with the provisions of chapter 453 of the Acts of 1923.

Public Hearing before the joint board was held on December 17, 1930, upon a petition of ten citizens of the Commonwealth for the establishment of a right of way to Dunham Pond in the town of Carver. A special report to the legislature was made under date of January 9, 1931, stating:

"The Board is of the opinion that public necessity and convenience require the establishment of a right of way to Dunham Pond.

"The Board, therefore, recommends that the county commissioners of Plymouth County be authorized and directed to provide a right of way for public access to Dunham Pond."

Chapter 306 of the Acts of 1931 was passed in May, authorizing and directing the County Commissioners of Plymouth County to lay out a right of way in Carver from Tremont Street to Dunham Pond for public access, in accordance with plans approved by the Department of Public Works.

On May 20, 1931, the joint board gave a public hearing upon the petition of ten citizens of the Commonwealth for the establishment of a right of way for public access to Simon's Pond or Lake Marguerite in the town of Sandisfield. No further action has been taken.



## BENSON'S POND, MIDDLEBOROUGH

Benson's Pond is a great pond belonging to the Commonwealth, with an area of about 32 acres, but it is very shallow and at times practically dry. During the year a request was made by one of the owners of property upon the shore to be allowed to buy the pond area and convert it into cranberry bogs. The work of draining the pond and constructing cranberry bogs within the reclaimed area was recommended by the State Reclamation Board as the drainage would create conditions in the pond area unfavorable to the breeding of mosquitoes.

In April, Chapter 243 of the Acts of 1931 was enacted, providing,

"Subject to the written approval of the governor and council, and to such terms, conditions, restrictions and reservations as the department of Public Works may, with such approval, impose, the said department may convey, in the name and on behalf of the commonwealth, all the right, title and interest which the commonwealth has the power to convey in and to Benson's Pond, so called, including the waters and the land under the same, situated in the southerly part of the town of Middleborough and containing approximately twenty-five acres. Said conveyance shall be subject to any private rights in the property conveyed and shall be in a form approved by the attorney general."

After the passing of this Act a petition was filed by George A. Cowen, owner of property upon the shore of Benson's Pond, asking for conveyance to him of the title of the Commonwealth to this pond in order that he might drain the pond area and convert it to cranberry bogs. His petition was accompanied by a plan showing in detail the work proposed.

A public hearing, duly advertised, was held by the Department at the State House on Sept. 16, 1931. No evidence was received by the Board of any opposition to the project proposed by Mr. Cowen.

Under date of Oct. 13, 1931, under the provisions of Chapter 243 of the Acts of that year, a deed was signed conveying to George A. Cowen the right, title and interest of the Commonwealth in Benson's Pond. This conveyance was approved by the Governor and Council Oct. 21, 1931.

This instrument provides that the work shown upon the plan submitted shall be carried out within five years, and that unless the draining and developing of the entire pond area for cranberry culture is completed within that period, all right, title and interest in the property shall revert to the Commonwealth.

## CAPE COD CANAL LANDING PLACE

Chapter 441 of the Acts of 1931 provides:

"Section 1. The department of Public works is hereby authorized and directed to request the war department of the United States to grant a permit and recommend a suitable location for the construction of a pier on the Cape Cod canal for the purpose of providing thereat adequate facilities and equipment for the handling of passengers and freight of ocean-going and other vessels, including in such permit authority to dredge a channel to said pier to accommodate such vessels. After the said department of public works has obtained the permit and recommendation as to location, said department may expend such sum, not exceeding in the aggregate two hundred and fifty thousand dollars, as may hereafter be provided.

"Section 2. To meet the expenditures necessary in carrying out the provisions of section one, the state treasurer shall upon request of the department issue and sell, at public or private sale, bonds of the commonwealth, registered or with interest coupons attached, as he may deem best, to an amount, to be specified from time to time by the department, but not in excess of two hundred and fifty thousand dollars in the aggregate. All such bonds shall be designated on their face, Cape Cod Canal Pier Loan, and shall be on the serial payment plan for a maximum term of ten years dating from the time when the permit and recommendation required in section one has been obtained. Said bonds shall bear interest, payable semi-annually, at such rate as the state treasurer, with the approval of the governor and council, shall fix.

"Section 3. Upon the completion of the work authorized in section one, said department shall have the supervision, control and maintenance of said pier, facilities and equipment, and shall make such rules and regulations and establish



such reasonable rates for the use of said pier, facilities and equipment as may be approved by the governor and council."

On June 26, 1931, at two o'clock in the afternoon the Department gave a public hearing, duly advertised, in the Town Hall at Bourne, to all persons interested in the provisions of the Act. One of the purposes of this hearing was to secure expressions of opinion as to the preferable location for the pier authorized by the statute. The greater number of those present at the hearing appeared to be strongly in favor of the building of the pier at the Buzzards Bay end of the canal.

The Department under the provisions of the Act has requested the War Department to grant a permit and recommend a suitable location for the construction of the pier. No further action can be taken by the Board until the necessary authorization is received from the War Department.

#### PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,810 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand, the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Four acres of sand dunes have been covered with brush; 10,000 native pines on the sod have been transplanted and 350,000 seedlings of Scotch and Austrian pines planted. Bayberry has been planted along the new road for a distance of about one-half mile.

The work of building a sand marsh sod and timber dike about 3,200 feet long across Race Run under contract of July 15, 1930, with Frank H. Barry was completed Feb. 20, 1931, at a contract cost of \$18,950. The filling of areas back of the dike, the replacing of sod and the care of drains has been carried on by the force employed by the Superintendent upon these lands.

Under the provisions of Chapter 386 of the Acts of 1930, the Department on Dec. 17, 1930, conveyed to the United States a tract of land containing about 4.77 acres westerly of the northerly end of the State Highway at Sea View, for use as a site for a Coast Guard Station.

The sum of \$298.35 has been paid into the State Treasury during the year from licenses issued for cultivating and picking blackberries on the bogs and for mowing meadows and from permits for occupying areas on these lands.

Amount expended during the year, \$11,457.87. Total expenditure to Dec. 1, 1931, \$157,235.79.

#### STATE BOUNDARY LINES

The work of resetting monuments found damaged during the perambulation of the State Line in 1930 was completed this year by the carrying out of the following work:

Massachusetts-Rhode Island Line,—Bounds numbered 5, 7, 25, 34, 35, 61, 62, 78, 83, 116, 117, 126 and two line stones on Newport Avenue, Attleborough and Pawtucket, reset.

Massachusetts-Connecticut Line,—Bound Dudley-Woodstock "C" moved and reset.

Massachusetts-New Hampshire Line,—Bound numbered 116 moved easterly about 75 feet and reset.

#### TOWN BOUNDARY LINES

During the year a survey was made of a portion of the boundary line between the towns of Newbury and Rowley crossing Plum Island River. Line stones were placed to mark this line as defined by Chap. 402, Acts of 1931.

The location of a bound stone was also determined on the Sharon-Walpole line and the bound at the three town corner of Lynn-Lynnfield-Peabody was relocated.



### CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$5,000.

During the year two new gauging stations were established, one on the south branch of the Hoosac River in Adams and one on the north branch of the Hoosac River in North Adams.

### RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation points were determined and permanently marked on the ground and the geographical positions furnished to the Land Court: 41 stations in Nantucket; 7 stations in Duxbury. Amount expended during the year, \$987.99.

### LICENSES AND PERMITS

During the year 140 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River and 115 permits for miscellaneous purposes. The Department also approved 127 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

### EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859-1931, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1930</i>	<i>1931</i>	<i>Total</i>
Boston Harbor . . . . .	\$1,417,933 18 <sup>1</sup>		
Dredging and filling . . . . .		\$100,815 44	
Maintenance of property . . . . .		84 00	
Special appropriation . . . . .		66 85	
Contributions . . . . .		—	\$1,518,899 47
Commonwealth Flats, East Boston . . . . .	3,093,326 83 <sup>2</sup>	—	3,093,326 83
Commonwealth Flats, South Boston . . . . .	4,872,123 69		
Special appropriation . . . . .		20,000 00	4,892,123 69
Castle Island . . . . .	738,821 71		
Dredging and filling . . . . .		1,407 00	
Maintenance of property . . . . .		125 00	740,353 71
Commonwealth Pier No. 5, South Boston:			
Construction . . . . .	4,014,790 45		
Maintenance . . . . .	550,892 94	63,649 60	
Dredging . . . . .	22,050 36		
Operation and supervision . . . . .	1,414,159 94	122,088 65	6,187,631 94
Commonwealth Pier No. 1, East Boston:			
Construction . . . . .	1,199,703 23		
Operation and supervision . . . . .	103,458 40	8,967 49	
Maintenance . . . . .	13,335 18	2,211 87	1,327,676 17

<sup>1</sup> Contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921, \$4,000.00; by Bethlehem Ship Building Corporation in 1930, \$10,000.00.

<sup>2</sup> Appropriated by City of Boston in 1926, \$10,000.00.

<i>Payments</i>	<i>To Nov. 30, 1930</i>	<i>1931</i>	<i>Total</i>
Commonwealth Pier No. 6, South Boston:			
Construction . . . . .	1,092,149 06	—	
Maintenance . . . . .	51,937 90	—	1,144,086 96
Dry Dock . . . . .	3,169,651 15 <sup>3</sup>	—	3,169,651 15
Hayward Creek . . . . .	385,959 61 <sup>4</sup>	—	
Dredging and filling . . . . .		20 00	385,979 61
Mystic River . . . . .	428,897 17 <sup>5</sup>	—	428,897 17
Malden River . . . . .	32,268 70 <sup>6</sup>	—	32,268 70
Chelsea Creek . . . . .	60,561 88	—	60,561 88
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property of Commonwealth (in addition to maintenance items listed above)	310,962 39	33,842 65	344,805 04
	<hr/>	<hr/>	<hr/>
	\$23,026,196 87	\$353,278 55	\$23,379,475 42

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1931, INCLUSIVE

<i>Locality and Character of Work</i>	<i>Contributions by Municipality or Others</i>	<i>Total Expenditure</i>
Cottage Park Channel, Winthrop, dredging . . . . .	\$6,250 00	\$37,967 29
Dorchester, easterly shore, dredging and survey . . . . .	1,000 00	210,742 60
Harbor View, dredging . . . . .	—	146 00
Hingham Harbor, dredging . . . . .	6,500 00	41,595 12
Hough's Neck, Quincy, dredging . . . . .	7,500 00	46,088 31
Island End River, Everett, survey . . . . .	—	264 10
Jeffries Point Channel, dredging . . . . .	—	4,563 93
Mystic River (near Lawrence and Wiggin Wharf), dredging . . . . .	—	5,927 70
Neponset River, dredging . . . . .	10,000 00	103,616 40
Old Harbor Cove, dredging . . . . .	—	10,520 48
Orient Heights Channel, dredging . . . . .	—	45,412 38
Pemberton Point, Hull, breakwater . . . . .	60,000 00	90,520 98
Pleasant Park Yacht Club Channel, dredging . . . . .	3,000 00	15,805 10
Point Allerton, Hull, sea wall . . . . .	50,000 00	75,127 05
Point Shirley, Winthrop, dredging . . . . .	—	3,713 37
Quincy Bay, dredging . . . . .	7,150 00	71,263 17
Shirley Gut, Boston and Winthrop, dredging . . . . .	—	2,110 96
South Boston, southerly shore, dredging . . . . .	—	129,542 08
Stony Beach, Hull, sea wall . . . . .	—	12,326 09
Town River, Quincy, survey and dredging . . . . .	16,050 00	57,473 27
Weir River, Hull, dredging . . . . .	45,000 00	205,336 48
Wessagussett Channel, dredging . . . . .	—	815 20
Weymouth Fore River, dredging . . . . .	8,250 00	69,469 09
Winthrop Harbor Channels, dredging . . . . .	17,192 00	72,769 80
	<hr/>	<hr/>
	\$237,892 00	\$1,313,116 95

<sup>3</sup> Additional amount paid by State Treasurer from Development of the Port of Boston Loan sinking fund in settlement of claims, \$17,877.73.

<sup>4</sup> Contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation, \$38,600.00; paid by State Treasurer for land taking, \$3,725.27.

<sup>5</sup> Contribution by Merrimac Chemical Company in 1920, \$15,000.00; in 1922, \$4,182.50; contribution by Beacon Oil Company in 1920, \$50,000.00.

<sup>6</sup> Expended by United States Government, \$31,000.00; contribution by Standard Oil Company of New York, \$600.00.



EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK  
FROM DECEMBER 1, 1930, TO NOVEMBER 30, 1931

<i>Location and Character of Work</i>	Contributions	Expenditures
Allen's Harbor, Harwich, timber fence, riprap and jetties . . . . .	\$2,600 00	\$8,063 69
Barnstable Harbor, dredging . . . . .	5,000 00	12,138 52
Bass River, Dennis and Yarmouth, dredging and jetties . . . . .	—	5,887 39
Brant Rock, Marshfield, sea walls and riprap . . . . .	104,947 06	103,997 79
Centerville River, Barnstable, dredging . . . . .	4,000 00	35,810 93
Chatham, riprap . . . . .	10,500 00	19,813 19
Cohasset Harbor, Cohasset, dredging and survey . . . . .	9,000 00	16,371 33
Ellisville Harbor, Plymouth, excavation and dike repairs . . . . .	—	513 75
Gloucester Fish Pier . . . . .	—	396 91
Great Ponds, survey . . . . .	—	1,687 55
Green Harbor, Marshfield, dredging . . . . .	40,000 00	79,476 21
Gun Rock Point, Hull, sea wall repairs . . . . .	—	319 80
Herring River, Harwich, dredging . . . . .	4,000 00	45,383 82
Improvement of Rivers and Harbors, general expenses . . . . .	—	3,417 79
Lagoon Pond, Tisbury and Oak Bluffs, survey . . . . .	—	309 75
Lake Anthony, Oak Bluffs, jetties and dredging . . . . .	10,000 00	21,880 27
Lewis Bay, Barnstable, survey and dredging . . . . .	—	173 45
Little Harbor, Cohasset, survey . . . . .	500 00	1,476 77
Long Beach Rockport, concrete sea wall . . . . .	26,000 00	43,125 74
Manchester Harbor, Manchester, dredging . . . . .	6,500 00	13,398 56
Menamsha Inlet, Chilmark and Gay Head, survey . . . . .	—	105 05
New Bedford State Pier, operation and maintenance . . . . .	—	4,090 56
New Bedford State Pier, construction and alterations . . . . .	—	42,638 30
Plymouth Harbor, Plymouth, dredging . . . . .	—	5,971 57
Plymouth Memorial Park, maintenance . . . . .	—	4,713 89
Province Lands, Provincetown, reclamation . . . . .	—	11,457 87
Rock Harbor, Orleans, removal of wreck . . . . .	—	165 00
Rockport Harbor, Rockport . . . . .	4,250 00	17,177 18
Salisbury Beach, survey . . . . .	—	1,397 06
Scituate, shore protection: . . . . .	37,500 00	
Cedar Point, Scituate, sea wall . . . . .	—	3,853 38
First and Second Cliffs, Scituate, riprap . . . . .	500 00	995 44
North Scituate, Surfside, sea wall and jetties . . . . .	437 08	11,186 50
Sand Hills, Scituate, sea walls and jetties . . . . .	—	16,043 74
Humarock Beach, Scituate, sea wall and jetties . . . . .	—	22,493 66
Third Cliff, Scituate, riprap . . . . .	—	5,022 06
General Surveys, Scituate . . . . .	—	383 24
South River, Marshfield and Scituate, survey . . . . .	—	724 85
Taunton River, survey . . . . .	30,000 00	1,904 55
Waquoit Bay, Falmouth, dredging and jetty repairs . . . . .	15,500 00	35,889 90
Water conservation . . . . .	—	5,134 52
West Falmouth Harbor, removal of logs from channel . . . . .		170 03
West Harwich, Harwich, jetty repairs and shore protection . . . . .	2,500 00	385 00
Westport Harbor, Westport, survey and jetty repairs . . . . .	—	472 62
Wild Harbor, Falmouth, dredging . . . . .	—	4,777 30
Winthrop Shore, Winthrop, survey . . . . .	—	10 00
Witchmere Harbor, Harwich . . . . .	500 00	7,620 41
	\$314,234 14	\$618,426 89

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1931, INCLUSIVE, FOR RIVER  
AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC  
WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging . . . . .	—	\$119,792 10
Allen's Harbor, Harwich, shore protection, dredging, jetties and riprap . . . . .	\$12,427 50	34,796 96
Allen's Pond, Dartmouth, survey . . . . .	—	195 95
Angle Tree Monument, reservation . . . . .	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap . . . . .	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, sur- vey, dredging and stone breakwater . . . . .	—	55,786 05
Barnstable Harbor, Barnstable, dredging . . . . .	6,500 00	30,693 16
Bass River, Beverly, dredging . . . . .	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, jetties, dredging and survey . . . . .	22,595 00	182,413 47
Beach Street, Scituate — See Scituate.		
Beverly Harbor, Beverly, dredging . . . . .	—	50,000 00 <sup>1</sup>
Brant Rock, Marshfield, sea walls . . . . .	111,503 66	130,425 45
Brewster, Skaket Inlet, survey . . . . .	—	617 19
Buck's Creek, Chatham, jetties, survey and dredging . . . . .	2,500 00	39,719 69
Buzzard's Bay, Falmouth, survey . . . . .	—	166 11
Cape Poge, Edgartown, cut through beach, jetties and riprap . . . . .	16,500 00	42,557 04
Cataumet Harbor — See Megansett Harbor.		
Cedar Point, Scituate — See Scituate.		
Centerville River, Barnstable, dredging . . . . .	19,711 50	44,093 52
Chatham, riprap . . . . .	10,500 00	19,813 19
Cohasset Harbor, Cohasset, breakwater and dredging . . . . .	42,691 88	113,435 77
Concord River, Billerica — removing boulders . . . . .	150 00	1,664 59
Connecticut River, investigation of navigation and surveys . . . . .	—	8,878 96
Connecticut River, Agawam, protective work . . . . .	—	18,814 42
Connecticut River, Chicopee, survey wall and riprap . . . . .	640 00	25,789 02
Connecticut River, Hadley, protective work, diver- sion wall and survey . . . . .	5,000 00	118,740 95 <sup>2</sup>
Connecticut River, Hatfield, dikes and riprap . . . . .	1,000 00	51,238 61
Connecticut River, Holyoke, dredging and protective work . . . . .	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers . . . . .	—	1,195 32
Connecticut River, Northampton, protective work . . . . .	—	1,524 20
Connecticut River, Northfield, riprap . . . . .	—	9,028 90
Connecticut River, South Hadley, wall . . . . .	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, protective work . . . . .	—	12,510 08 <sup>3</sup>
Conservation of Waters — investigation . . . . .	—	76,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs . . . . .	13,183 38	83,243 85
Cuttyhunk Harbor, Gosnold, jetties and dredging . . . . .	9,000 00	70,754 18
Deacon's Pond Harbor — See Falmouth Inner Har- bor.		
Duxbury Bay and Harbor, dredging . . . . .	27,000 00	92,653 35
East Bay, Osterville, jetties, dredging and removing scows . . . . .	10,000 00	70,924 23

<sup>1</sup> \$50,000 expended by United States Government.

<sup>2</sup> From 1888 inclusive.

<sup>3</sup> From 1891 inclusive.



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by	
	Municipality or Others	Total Expenditure
Edgartown Harbor, Edgartown, survey and cut in beach	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs	—	20,174 18
Essex County beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33
Fall River Harbor, improvement	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap	22,210 04	70,667 71
Falmouth Inner Harbor, dredging, jetties, wall and riprap	31,500 00	150,396 26
First and Second Cliffs, Scituate — See Scituate.		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Glades, North Scituate — See Scituate.		
Gloucester Fish Pier	—	396 91
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and removing ledges	15,000 00	148,786 71
Great Head, Winthrop — See Winthrop Shore.		
Great Ponds, survey	—	18,340 55
Green Harbor, Marshfield, jetties, dredging and survey	42,500 00	158,513 16
Gun Rock Point, Hull, breakwater and sea wall repairs	16,135 41	78,259 13
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and fence	36,100 00	131,384 96
Herring River, Wellfleet, dikes and ditches	10,000 00	34,509 38
Hoosac River, North Adams, excavation and survey	—	21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, sea wall and jetties	8,882 06	38,485 08
Humarock Beach, Scituate — See Scituate.		
Hyannisport, Barnstable, survey and breakwater	2,500 00	65,017 76
Improvement of Rivers and Harbors, general expenses	—	39,515 52
Ipswich River, Ipswich, jetty, wall, riprap and dredging	3,800 00	59,079 55
King's Beach, Swampscott, removal of obstruction	—	166 41
Lagoon Pond, Tisbury and Oak Bluffs, survey	—	309 75
Lake Anthony, Oak Bluffs, jetties and dredging	15,000 00	97,411 51
Lake Quannapowitt, Wakefield, investigation	—	345 32
Lake Tashmoo, Tisbury, survey	—	402 24
Lewis Bay, Barnstable, survey and dredging	18,809 29	66,804 73
Little Harbor, Cohasset, survey	500 00	1,476 77
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Long Beach, Rockport, sea wall	26,000 00	43,125 74
Lynn Harbor, Lynn, anchorage basin, survey and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	163,431 53
Manchester Harbor, Manchester, survey, jetties and dredging	83,000 00	189,694 04
Mattapoissett Harbor, survey	—	255 48
Megansett Harbor, Bourne and Falmouth, dredging	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, jetties,		

\* \$5,000 expended by United States Government.

EXPENDITURES AND CONTRIBUTIONS, ETC., — *Continued*

<i>Locality and Character of Work</i>	Contributions by		Total
	Municipality	or Others	
dredging, sea wall and riprap	2,700	00	117,097 16
Merrimack River, investigation	—	—	1,208 50
Mill River, Gloucester, survey and dredging	300	00	24,899 59
Mitchell's River, Chatham, survey and dredging	6,000	00	23,113 92
Monument Beach, Bourne, survey	—	—	326 40
Nahant, survey	—	—	82 15
Namequoit River and Pleasant Bay, dredging	5,500	00	28,529 62
Nantucket, survey of Sesachacha Pond	—	—	110 66
Nantucket Harbor, dredging	5,000	00	58,982 52
Nauset Harbor and Town Cove, Orleans, dredging	2,000	00	10,671 24
New Bedford Harbor, dredging	—	—	18,856 57
New Bedford State Pier, pier shed and dredging	13,446	74 <sup>s</sup>	536,771 63
New Bedford State Pier, operation and maintenance	—	—	57,279 11
Newburyport Harbor, survey	—	—	115 97
Nobscusset Harbor, Dennis, breakwater, dredging	1,950	00	41,385 22
and riprap	1,800	00	8,658 75
North River, Marshfield, surveys and removing rocks	—	—	704 52
North River, Salem, survey	—	—	—
North Scituate — See Scituate.	—	—	594 95
Oak Bluffs, removing rocks	52,500	00	141,077 77
Oak Bluffs, sea walls, bulkhead and jetties	—	—	143 23
Ocean Grove, Swansea, survey	1,000	00	15,295 89
Onset Bay, Wareham, survey and dredging	—	—	104 18
Orleans, survey	—	—	358 76
Palmer's Pond, Falmouth, survey	—	—	—
Pamet River, Truro, survey, dredging and repairing	1,200	00	198,010 32
jetties	—	—	5,227 68
Paskamansett River, Dartmouth, dredging and jetty	—	—	5,192 95
Penikese Island, Gosnold, pile wharf and survey	—	—	904 80
Pines River, Revere and Saugus, survey	600	00	2,364 33
Pleasant Bay, Chatham	—	—	—
Plum Island River, Newbury and Newburyport,	—	—	983 31
survey	92,794	55 <sup>s</sup>	324,526 92
Plymouth Harbor, dredging and removing old piling	—	—	40,400 97
Plymouth Memorial Park, maintenance	—	—	—
Point Shirley, Winthrop — See Winthrop Shore.	—	—	46,252 33
Poponesset Bay, Barnstable and Mashpee, dredging	—	—	—
Powow River, Amesbury, dredging channel and rip-	—	—	502 94
rapping wall	—	—	157,235 79
Province Lands, Provincetown	75	00	28,730 81
Provincetown Harbor, shore protection	—	—	710 31
Quamquisset Harbor, Falmouth, survey	500	00	2,194 50
Quansett Harbor, Orleans, survey and dredging	—	—	275 00
Red Brook Harbor, Bourne, removing pier	—	—	60,397 93
Revere, stone breakwater	2,400	00	20,832 51
Rock Harbor, Orleans, dredging	—	—	—
Rockport Harbor, Rockport, dredging and removing	4,750	00	32,897 46
rocks	—	—	1,509 92
Salem Harbor, Salem, survey	—	—	1,397 06
Salisbury Beach, survey	—	—	210 11
Salt Pond River, Eastham, survey	4,500	00	42,939 57
Salter's Point, Dartmouth, breakwater	—	—	—
Sand Hills, Scituate — See Scituate.	—	—	—
Sandwich Harbor, Sandwich, dredging channel, rip-	—	—	—

<sup>s</sup> Paid by surety company.<sup>s</sup> \$57,000 expended under direction of United States Government.



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by		Total
	Municipality	or Others	Expenditures
rap and jetties . . . . .	—	—	80,579 84
Saugus River, Lynn and Saugus . . . . .	2,000	00	20,845 17
Scituate, shore protection: . . . . .	37,500	00	
Beach Street, Scituate, wall and breakwater . . . . .	17,333	52	34,782 50
Cedar Point, Scituate, wall and breakwater . . . . .	21,446	64	41,298 70
First and Second Cliffs, Scituate, wall and riprap . . . . .	2,797	92	14,048 96
Glades, North Scituate, filling and riprap . . . . .	13,250	78	30,737 96
Humarock Beach, Scituate, survey, wall and jetties . . . . .	37,816	38	79,772 72
North Scituate, Surfside, spur jetties . . . . .	2,194	68	28,229 19
Sand Hills, Scituate, wall and jetties . . . . .	4,511	26	28,667 80
Third Cliff, Scituate, riprap and survey . . . . .	75,193	10	126,375 40
General Surveys, Scituage . . . . .	—	—	383 24
Scituate Harbor, dredging and surveys . . . . .	53,300	00	205,865 94
Scorton Harbor, Sandwich, jetty and dredging . . . . .	500	00	17,774 34
Seapuit River, Barnstable, dredging . . . . .	13,000	00	25,088 55
Sesuit Harbor, Dennis, jetty . . . . .	1,500	00	24,555 10
Shirley Gut, survey . . . . .	—	—	97 05
Sippican Harbor, Marion, survey . . . . .	—	—	615 66
Smith's Cove, Gloucester, survey and dredging . . . . .	3,875	00	13,466 16
South River, Marshfield and Scituate, survey . . . . .	—	—	724 85
South River, Salem, dredging . . . . .	3,000	00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation . . . . .	—	—	203 42
Stage Harbor, Chatham, dikes and survey . . . . .	—	—	10,803 01
Taunton-Brockton waterway, investigation . . . . .	—	—	5,278 18
Taunton River, survey and dredging . . . . .	42,500	00	30,601 73
Taunton River, Boston Harbor Canal, survey . . . . .	—	—	9,932 75
Taunton River, Massachusetts Bay Canal, survey . . . . .	—	—	11,786 71
Third Cliff, Scituate — See Scituate.			
Vineyard Haven Harbor, repairing sea wall . . . . .	2,380	50	11,945 01
Vineyard Haven Harbor, Tisbury, breakwater and dredging . . . . .	1,000	00	45,518 25
Waquoit Bay, Falmouth, breakwater, wall, bulkheads and dredging . . . . .	17,500	00	93,314 40
Wareham River, Wareham, survey and dredging . . . . .	5,000	00	42,567 93
Warren's Cove, Plymouth, sea wall and survey . . . . .	9,713	98	25,099 86
Watch Hill, Chatham, survey and riprap . . . . .	—	—	14,968 75
Water Conservation — See Conservation of Waters.			
Wellfleet Harbor, Wellfleet, survey and dredging . . . . .	1,500	00	17,600 29
West Bay, Barnstable and Osterville . . . . .	16,128	07	114,517 57
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater . . . . .	11,473	75	63,520 95
West Harwich, shore protection . . . . .	6,000	00	20,813 30
Westfield River, Westfield, survey and jetties . . . . .	—	—	6,037 29
Westport Harbor, Westport, jetty extension and repairs . . . . .	—	—	19,497 69
Wild Harbor, Falmouth, jetty and dredging . . . . .	15,000	00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work . . . . .	40,500	00	97,557 52
Witchmere Harbor, Harwich, jetties and dredging . . . . .	3,500	00	63,415 54
Woods Hole, Great Harbor, Falmouth, dredging . . . . .	1,500	00	6,968 86
Wrecks, removal from tide water . . . . .	—	—	20,283 69
Yarmouthport Harbor, survey . . . . .	7,000	00	95,977 37

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\$1,488,444 63 \$7,542,485 09

## FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1931, are shown in the following tables furnished by the Chief of Engineers, U. S. Army: —

TABLE NO. 1. — *Localities at Present under Improvement*

(Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1931.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor . . . . .	\$500,900 00	\$500,900 00
Gloucester Harbor . . . . .	538,194 00	548,183 00
Beverly Harbor . . . . .	246,690 41	246,690 41 <sup>1</sup>
Salem Harbor . . . . .	107,956 57	107,956 57
Lynn Harbor . . . . .	472,817 27	711,937 00
Mystic River . . . . .	306,684 84	306,684 84
Boston Harbor . . . . .	13,480,743 04	13,527,362 58
Dorchester Bay and Neponset River . . . . .	128,176 44	128,176 44
Weymouth Fore River . . . . .	641,150 00	641,150 00 <sup>2</sup>
Weymouth Back River . . . . .	27,000 00	27,000 00
Scituate Harbor . . . . .	126,590 98	126,590 98
Plymouth Harbor . . . . .	421,184 80	421,184 80 <sup>3</sup>
Cape Cod Canal . . . . .	11,990,934 54	12,187,555 45
Operating and care, Cape Cod Canal . . . . .	828,528 56	844,000 00
Provincetown Harbor . . . . .	348,062 72	348,062 72
Pollock Rip Shoals . . . . .	1,314,105 57	1,332,845 68
Cross Rip Shoals, Nantucket Sound . . . . .	6 67	27,000 00
Harbor of Refuge at Nantucket . . . . .	694,582 83	694,582 83
New Bedford and Fairhaven Harbor . . . . .	1,073,339 11	1,217,852 58
Fall River Harbor . . . . .	491,777 84	664,614 47
Taunton River . . . . .	206,548 88	314,329 19
	<hr/>	<hr/>
	\$33,945,975 07	\$34,924,659 54

TABLE NO. 2. — *Localities in Which Work is Not Now in Progress*

(Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River . . . . .	\$404,466 72	\$404,466 72
Malden River . . . . .	149,950 00	149,950 00 <sup>4</sup>
Sandy Bay, Cape Ann, Harbor of Refuge . . . . .	1,941,478 00	1,941,478 00
Bass River . . . . .	20,150 34	20,150 41
Buzzard's Bay Harbor . . . . .	2,500 00	2,500 00
Canapitset Channel . . . . .	5,312 54	9,800 00
Chatham Harbor . . . . .	12,171 36	13,732 79
Cohasset Harbor . . . . .	10,000 00	10,000 00
Duxbury Harbor . . . . .	37,000 00	37,000 00
East Dennis Breakwater . . . . .	7 57	1,500 00
Edgartown Harbor . . . . .	25,000 00	25,000 00
Essex River . . . . .	30,000 00	30,000 00
Hingham Harbor . . . . .	38,316 58	39,000 00
Hyannis Harbor . . . . .	221,267 07	221,267 07
Ipswich River . . . . .	5,617 91	7,500 00
Kingston Harbor . . . . .	8,940 09	10,000 00
Little Harbor, Woods Hole . . . . .	18,000 00	18,000 00
Manchester Harbor . . . . .	23,985 57	24,300 00

<sup>1</sup> Exclusive of \$100,000 contributed funds.

<sup>2</sup> Exclusive of \$100,000 contributed funds.

<sup>3</sup> Exclusive of \$108,400 contributed funds.

<sup>4</sup> Exclusive of \$62,000 contributed funds.



<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Marblehead Harbor . . . . .	833 43	1,900 00
Martha's Vineyard Harbor . . . . .	7,000 00	7,000 00
Powow River . . . . .	50,940 72	51,000 00
Rockport Harbor . . . . .	91,229 25	91,232 57
Town River . . . . .	37,577 41	37,577 41
Vineyard Haven Harbor . . . . .	55,387 35	60,000 00
Wareham Harbor . . . . .	95,997 30	96,236 00
Wellfleet Harbor . . . . .	11,365 57	16,000 00
Westport Harbor and River . . . . .	3,000 00	3,000 00
Winthrop Harbor . . . . .	9,000 00	9,000 00
Woods Hole Channel . . . . .	343,599 92	344,000 00
Total . . . . .	\$3,660,094 69	\$3,682,590 97

## RECAPITULATION

	<i>Expenditures</i>	<i>Appropriations</i>
Total of Table No. 1 . . . . .	\$33,945,975 07	\$34,924,659 54
Total of Table No. 2 . . . . .	3,660,094 69	3,682,590 97
	\$37,606,069 76	\$38,607,250 51

## EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1931

(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Boston Harbor proper <sup>1</sup> . . . . .	\$13,480,743 04	\$13,527,362 58
Mystic River . . . . .	306,684 84	306,684 84
	\$13,787,427 88	\$13,834,047 42

<sup>1</sup> Including Chelsea Creek.





## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
207	Wild Harbor, Falmouth, dredging .	Trimount Dredging Company .	May 6, 1930
237	Race Run Dike—Province Lands .	Frank H. Barry . . . . .	July 15, 1930
238	Boston Harbor, dredging off India, Central and Long Wharves.	Bay State Dredging and Contracting Company.	July 15, 1930
239	Centerville River, Barnstable, dredging.	Trimount Dredging Company .	July 22, 1930
241	East Boston, dredging off Cunard Docks (Grand Junction Wharves) .	Bay State Dredging and Contracting Company.	July 15, 1930
243	Herring River, Harwich, dredging .	Trimount Dredging Company .	Aug. 26, 1930
244	East Boston, dredging adjacent to Simpson Works.	Bay State Dredging and Contracting Company.	Sept. 2, 1930
245	Commonwealth Pier 5, additions to engineering offices.	Carl S. Helrich. . . . .	Aug. 26, 1930
248	Green Harbor, Marshfield, timber fence.	Owen W. Duffy Co. . . . .	Oct. 14, 1930
249	South Boston, painting exterior of building on Grasselli Wharf and of garage under viaduct.	Maurice M. Devine . . . . .	Oct. 28, 1930
250	Allens Harbor, Harwich, timber fence and riprap.	Joseph W. Nickerson . . . . .	Nov. 12, 1930
251	Neponset River, dredging . . .	Bay State Dredging and Contracting Company.	Nov. 5, 1930
252	Witchmere Harbor, Harwich, dredging.	William E. Burke . . . . .	Nov. 5, 1930
253	Northern Avenue, sea wall . . .	William R. Farrell . . . . .	Nov. 18, 1930
254	Hough's Neck, Quincy, dredging. .	Bay State Dredging and Contracting Company.	Nov. 25, 1930
255	Coulter's Beach, Savin Hill Bay, placing sand or gravel.	Henry N. Worthington . . . . .	Nov. 25, 1930
256	Pilgrim Memorial Park, Plymouth, concrete walks, etc.	Domenik Romano. . . . .	Nov. 25, 1930

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1931

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1931	Total paid to Nov. 30, 1931	Estimated Amount of Contract
Completed Dec. 15, 1930	For dredging and disposing of dredged material on shore, 57 cents per cubic yard measured in situ. For removing and disposing of boulders, \$20 per cubic yard. Lump sum of \$18,950.	\$4,684 29	\$17,718 79	\$19,500 00
Completed Feb. 20, 1931 Completed Dec. 23, 1930	For dredging and disposing of dredged material, 36 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	6,064 00	18,950 00	18,950 00
Completed Sept. 1, 1931	For dredging and disposing of dredged material on marsh, upland and beach, 35 cents per cubic yard, measured in place. For removing and disposing of boulders, \$10 per cubic yard.	3,014 55	20,097 00	20,097 00
Completed Mar. 21, 1931	For dredging and disposing of dredged material, 44.5 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	23,746 00	23,746 00	25,000 00
Completed Jan. 10, 1931	For dredging channel and disposing of dredged material upon adjacent flats, 58 cents per cubic yard; including building dikes and removing section of lower County Bridge. For removing and disposing of boulders, \$20 per cubic yard.	6,893 12	31,979 04	31,979 04
Completed Mar. 26, 1931	For dredging and disposing of dredged material, 55 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	27,265 31	52,852 50	51,640 00
Completed Dec. 19, 1930	For furnishing labor and materials and building addition to engineering offices, \$17,890. For removing broken glass and furnishing and setting new wire glass, \$1.25 for each light of glass placed. For reputtying Fenestra sash, 35 cents for each light of glass puttied.	16,389 34	42,752 60	42,752 60
Completed Jan. 3, 1931	For each linear foot of fence measured in place, including furnishing of all labor and materials and performing of all excavations, backfilling and incidental work, \$5.50.	3,681 29	18,377 96	18,377 96
Completed Dec. 11, 1930	For furnishing labor and equipment for painting by spraying under compressed air the exterior of two buildings, the lump sum of \$595.	1,966 00	4,069 75	4,069 75
Completed Dec. 29, 1930	For each linear foot of fence, measured in place, including furnishing of labor and materials, \$6. For each ton of riprap furnished and placed, including all grading and incidental work, \$4.65.	413 48	716 93	716 93
Completed Dec. 16, 1930	For dredging and disposing of dredged material, 74 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	2,783 92	2,783 92	2,785 50
Completed Dec. 10, 1930	For dredging and disposing of dredged material, 60 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	1,186 22	1,186 22	1,352 00
Completed Dec. 4, 1930	For furnishing and placing riprap along toe of sea wall, including all incidental work, \$4.73 per ton of riprap in place.	5,241 60	5,241 60	4,940 00
Completed Jan. 23, 1931	For dredging and disposing of dredged material, 49 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	2,920 30	2,920 30	2,838 00
Completed Dec. 15, 1930	For furnishing and placing sand or sand and gravel, including all incidental work, \$1.20 per cubic yard of material placed in the work.	14,987 14	14,987 14	14,720 00
Completed Dec. 15, 1930	For straight granite curbing set in place, \$2.05 per linear foot. For curved granite curbing set in place, \$2.25 per linear foot. For concrete walk in place, \$2.25 per square yard. For gravel walk in place, \$1.25 per square yard.	4,106 52	4,106 52	4,106 52



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
257	Brant Rock, Marshfield, riprap . . .	Philip B. Oakman . . . . .	Nov. 25, 1930
258	Staples Wharf, South Boston, repairs.	Maurice M. Devine . . . . .	Dec. 2, 1930
259	Herring River, Harwich, dredging . .	Trimount Dredging Company . .	Nov. 25, 1930
260	Commonwealth Pier 5, South Boston, installation of wall outlets for electric service.	Mass. Electric Construction Company.	Feb. 10, 1931
261	Herring River, Harwich, dredging entrance channel.	Trimount Dredging Company . .	Feb. 17, 1931
262	Allen's Harbor, Harwich, dredging . .	Trimount Dredging Company . .	Mar. 17, 1931
263	Green Harbor, Marshfield, dredging .	Trimount Dredging Company . .	Apr. 28, 1931
264	Manchester Harbor, dredging . . . .	Bay State Dredging and Contracting Company.	Apr. 28, 1931
265	Lake Anthony, dredging . . . . .	Bay State Dredging and Contracting Company.	Apr. 28, 1931
266	Maraspin Creek, Barnstable, dredging.	Bay State Dredging and Contracting Company.	May 5, 1931
267	Green Harbor, Marshfield, rebuilding stone jetties.	Thomas Whalen & Sons, Inc. . . .	Apr. 28, 1931
268	Commonwealth Pier 5, repairing fenders and platform.	Bay State Dredging and Contracting Company.	May 5, 1931
270	Rockport Harbor, dredging . . . .	Bay State Dredging and Contracting Company.	May 19, 1931
271	Winthrop Harbor, dredging near Winthrop Yacht Club.	Saybrook Dredging Company . .	May 19, 1931
272	Cottage Park, Winthrop, dredging . .	North Atlantic Dredging Company.	May 19, 1931
273	East Bay, Barnstable, dredging . . .	Trimount Dredging Company . .	May 26, 1931

## AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1931

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1931	Total paid to Nov. 30, 1931	Estimated Amount of Contract
Completed Dec. 10, 1930	For placing riprap and chips, \$3.85 per ton.	\$863 75	\$2,500 00	\$2,500 00
Completed Feb. 17, 1931	Unit prices . . . . .	3,491 00	3,491 00	3,630 00
Completed Jan. 7, 1931	For dredging and disposing of dredged material on marsh and flats, 40 cents per cubic yard.	8,000 00	8,000 00	8,000 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Mar. 13, 1931	For furnishing and installing 65 wall outlets for electric service, \$1,130.	1,469 66	1,469 66	1,469 66
Completed Mar. 2, 1931	For dredging channel and disposing of dredged material on marsh and flats adjacent to work, including construction of necessary dikes, 30 cents per cubic yard.	7,583 40	7,583 40	7,500 00
Completed Apr. 15, 1931	For dredging channel through sand bars southerly of end of west jetty and disposing of excavated material on marsh and flats, \$1.00 per cubic yard.	4,000 00	4,000 00	4,000 00
	For dredging channel between jetties and disposing of excavated material on marsh and flats, 40 cents per cubic yard.			
Completed Oct. 5, 1931	For dredging and disposing of excavated material on land and marsh, including construction of necessary dikes, 41.4 cents per cubic yard.	34,500 28	34,500 28	31,898 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Aug. 25, 1931	For dredging and disposing of dredged material, 56 cents per cubic yard, scow measurement.	12,495 84	12,495 84	12,495 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed June 24, 1931	For dredging and disposing of dredged material, 42 cents per cubic yard, scow measurement.	19,012 14	19,012 14	18,920 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed July 3, 1931	For dredging and disposing of excavated material on marsh and flats, including the construction of necessary dikes and sluices, 40 cents per cubic yard, measured in place.	11,574 00	11,574 00	12,000 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed July 23, 1931	For each ton of riprap or stone chips furnished and placed in completed work, \$3.20.	23,406 18	23,406 18	23,720 00
	For each linear foot of timber fence measured in place, including furnishing of all labor and materials, and performing of all excavation, backfilling and incidental work, \$6.00.			
	For each cubic yard of concrete measured in place in the completed work, including all forms, excavation and incidental work, \$14.			
Completed July 28, 1931	Unit prices . . . . .	1,347 87	1,347 87	1,347 87
Completed Aug. 4, 1931	For dredging and disposing of dredged material, 50 cents per cubic yard, scow measurement.	16,088 50	16,088 50	16,088 50
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Sept. 29, 1931	For dredging and disposing of dredged material in disposal area specified, 55 cents per cubic yard measured in situ.	31,851 05	31,851 05	31,915 00
	For removing and disposing of boulders, \$15 per cubic yard.			
Completed July 12, 1931	For dredging and disposing of dredged material on the shore, 50 cents per cubic yard, measured in situ.	15,585 00	15,585 00	15,585 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Aug. 27, 1931	For dredging and disposing of excavated material on marsh and flats by hydraulic process, including construction of necessary dikes and sluices, 35 cents per cubic yard measured in place.	7,094 15	7,094 15	7,360 00
	For removing and disposing of boulders, \$10 per cubic yard.			



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
274	Waquoit Bay, Falmouth and Mashpee, dredging and repairs to jetty.	Bay State Dredging and Contracting Company.	June 9, 1931
275	East Boston, Jeffries Point, dredging .	Trimount Dredging Company .	June 9, 1931
276	Chatham Shore Protection . . .	Joseph W. Nickerson . . .	June 23, 1931
277	Commonwealth Pier 5, reconstruction of concrete beams and slabs.	Gunit Construction Company .	July 7, 1931
278	Boston Inner Harbor, dredging . .	Bay State Dredging and Contracting Company.	July 7, 1931
279	New Bedford State Pier, timber platform.	Frank C. Taylor . . . .	July 14, 1931
280	New Bedford State Pier, alterations to immigration shed and concrete pavement.	P. J. McNally & Sons . . .	July 14, 1931
281	E Street Store, timber platform . .	Klayman Construction Company .	July 15, 1931
282	Long Beach, Rockport, concrete sea wall.	George W. Nicoll Company, Inc. .	Aug. 18, 1931
283	Scituate, Sand Hills, sea wall near wreck of Pilot Boat "Columbia" .	Crowley & Downey . . . .	Aug. 4, 1931
284	Scituate, Sand Hills, sea wall and jetties at northwesterly end.	Crowley and Downey. . . .	Oct. 6, 1931
285	Cedar Point, Scituate, concrete sea wall.	Crowley and Downey . . . .	Aug. 11, 1931
286	Humarock Beach, Scituate, concrete sea wall and jetties.	Atwood-Thomas Construction Company.	Aug. 11, 1931
287	North Scituate sea walls and jetties .	Thomas Joseph McCue . . .	Aug. 18, 1931
288	Third Cliff, Scituate, riprap . . .	John P. Cavanagh . . . .	Aug. 25, 1931

## AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1931

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1931	Total paid to Nov. 30, 1931	Estimated Amount of Contract
Completed Sept. 2, 1931	For dredging and disposing of excavated material on marsh and flats, including the construction of necessary dikes and sluices, 25 cents per cubic yard, measured in place. For removing and disposing of boulders, \$20 per cubic yard. For each ton of riprap or stone chips furnished and placed in the completed work, \$6.70.	\$33,820 67	\$33,820 67	\$33,820 67
Completed July 1, 1931	For dredging and disposing of dredged material, 69 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	1,395 87	1,395 87	1,607 00
Completed Aug. 28, 1931	For furnishing and placing heavy stone riprap and granite chips, \$3.79 per tone of 2,000 pounds, in place.	18,757 01	18,757 01	18,950 00
Completed Nov. 18, 1931	Unit prices . . . . .	10,095 36	10,095 36	12,788 00
Completed Sept. 22, 1931	For dredging and disposing of dredged material, 38.5 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	70,093 49	70,093 49	70,093 49
Completed Nov. 23, 1931	Unit prices . . . . .	41,716 33	41,716 33	48,252 50
Completed Sept. 1, 1931	For furnishing labor, materials and equipment for alterations to immigration shed, \$839. For each square yard of concrete pavement laid in driveway and approach, \$2.26 per square yard, measured in place in completed work.	2,062 79	2,062 79	2,062 79
Completed Sept. 26, 1931	Unit prices . . . . .	4,287 36	4,287 36	5,343 95
Completed Nov. 15, 1931	For each cubic yard furnished and placed in the construction of the concrete sea wall, \$11.20 measured in place in the completed work	41,116 40	41,116 40	44,240 00
Completed Oct. 1, 1931	For furnishing materials and constructing sea wall, \$10.02 per cubic yard of concrete measured in the completed work. For furnishing equipment and labor, for removing timber bulkheads and the wreck of the Pilot Boat "Columbia" and the disposal of the same, the lump sum of \$400. For furnishing 4-inch yellow pine plank, \$50.	5,127 54	5,127 54	6,311 70
Completed Nov. 10, 1931	For furnishing material and constructing concrete sea wall, including all incidental work, \$9.90 for each cubic yard of concrete measured in completed work. For furnishing materials and constructing six concrete jetties, including all incidental work, \$9.90 for each cubic yard of concrete measured in completed jetties.	4,465 01	4,465 01	5,252 95
Completed Oct. 7, 1931	For furnishing materials and constructing concrete sea wall, including all incidental work, \$9.90 for each cubic yard of concrete measured in the completed work.	3,406 89	3,406 89	3,415 50
Completed Nov. 10, 1931	For furnishing materials and constructing concrete sea wall and jetties, including all incidental work, \$9.20 for each cubic yard of concrete measured in completed work. For furnishing and placing 4-inch yellow pine plank for openings in concrete wall, including cost of materials, labor, and all incidental work, 10 cents for each board foot of lumber in place in the completed work.	21,347 04	21,347 04	25,114 16
Completed Nov. 28, 1931	For furnishing material and constructing concrete sea walls and jetties, \$10 per cubic yard of concrete measured in place of completed work. For furnishing and placing lumber in opening in concrete wall, 5 cents for each foot board measure of lumber in place in the completed work.	9,060 26	9,060 26	10,659 13
In progress	For furnishing each ton of stone riprap and depositing it in place, including all cleaning up and incidental work, \$2.24.	3,844 08	3,844 08	4,480 00



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON- TRACT No.	Work	Contractor	Date
289	Oak Bluffs, sea wall near entrance to Lake Anthony.	Joseph W. Nickerson . . . .	Sept. 1, 1931
290	Marshfield, sea wall at Fieldston . . . .	Louis B. Cadario and Sons . . . .	Sept. 15, 1931
291	Brant Rock, Marshfield, riprap . . . .	Raymond A. Bergesson . . . .	Sept. 15, 1931
292	Cohasset Harbor, dredging . . . .	Bay State Dredging and Contracting Company.	Sept. 8, 1931
293	Green Harbor, Marshfield, dredging . . . .	Trimount Dredging Company . . . .	Oct. 6, 1931
294	Pleasant Park Yacht Club, Winthrop, dredging.	Bay State Dredging and Contracting Company.	Oct. 20, 1931
295	Commonwealth Pier 1, East Boston . . . .	Michael Solimando . . . .	Oct. 27, 1931
296	Westport Harbor, repairs to stone jetty.	George W. Starbuck . . . .	Nov. 3, 1931
297	Scituate Sea Walls, Sand Hills and Scituate Harbor.	Thomas Joseph McCue . . . .	Oct. 27, 1931
298	Menamsha Inlet, Chilmark and Gay Head, protective work.	Merritt-Chapman & Scott Corporation.	Nov. 3, 1931
299	Hull, sea walls at Stony Beach and Pemberton, repairs and rebuilding.	Bradford Weston . . . .	Nov. 10, 1931
300	Winthrop Harbor, removal of boulders from basin of Winthrop Yacht Club.	Trimount Dredging Company . . . .	Nov. 10, 1931
301	Allens Harbor, Harwich, timber fence and riprap.	George W. Starbuck . . . .	Nov. 24, 1931

## AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1931

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1931	Total paid to Nov. 30, 1931	Estimated Amount of Contract
Completed Oct. 3, 1931	For furnishing labor and equipment and straightening existing concrete sea wall, the lump sum of \$200.	\$1,288 91	\$1,288 91	\$1,288 91
	For furnishing each bag of Portland cement used in concrete, including all form work, sand, gravel, excavation and backfilling, and all incidental work in connection with placing concrete footings and cap on the wall, \$3.33.			
In progress	For furnishing materials and constructing concrete sea wall and jetties, \$7.48 per cubic yard of concrete measured in completed work.	61,441 96	61,441 96	83,706 24
	For furnishing materials and constructing concrete apron and wing walls, the lump sum of \$1,250 for completed work.			
	For furnishing and placing heavy stone riprap, \$3 per ton of 2,000 pounds in place in completed work.			
In progress	For each ton of riprap and chips furnished and placed in completed work, including removal of remains of old timber bulkheads, storing of material and other incidental work, \$2.00.	11,101 00	11,101 00	29,096 75
Completed Oct. 19, 1931	For dredging and disposing of excavated material on marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 48 cents per cubic yard measured in place.	15,618 24	15,618 24	18,374 40
	For removing and disposing of all boulders, \$20 per cubic yard.			
Completed Nov. 14, 1931	For dredging channel and disposing of dredged material on upland and marsh out of tide water, 38 cents per cubic yard measured in place.	16,796 00	16,796 00	19,000 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Oct. 23, 1931	For dredging basin and disposing of the dredged material, \$1.08 per cubic yard, scow measurement.	1,274 18	1,274 18	1,748 00
	For removing and disposing of boulders, \$20 per cubic yard.			
In progress	Unit prices	-	-	2,705 40
In progress	For each ton of riprap or stone chips furnished and placed in completed work, \$5.40.	-	-	2,160 00
In progress	For furnishing material and constructing concrete top, face, footing and jetties, \$8.70 for each cubic yard of concrete measured in completed work.	5,401 72	5,401 72	8,050 00
	For furnishing $\frac{3}{4}$ " twisted steel reinforcing rods, 4 cents per pound.			
	For furnishing material and constructing and repairing light wall, \$8.70 for each cubic yard of concrete measured in completed work.			
In progress	For each ton of riprap or stone chips furnished and placed in the completed work, \$4.19.	-	-	12,777 82
	For furnishing and placing 340 cubic yards of filling, the lump sum of \$300.			
In progress	For furnishing all labor and materials and constructing new concrete sea wall, \$10 for each cubic yard of concrete measured in completed work.	-	-	2,929 94
	For furnishing labor and materials and constructing concrete footings under and in front of existing walls, \$12 for each cubic yard of concrete measured in the completed work.			
In progress	For towing equipment and crew to site of work and returning after completion of work, the lump sum of \$95.	-	-	1,200 00
	For rental of floating plant and all necessary equipment, including crew and all incidental expenses, \$89 for each day of eight hours the equipment is used on the work.			
	For each hour worked by diver and tender, including equipment, \$5 for each hour employed on the work.			
In progress	For each linear foot of fence measured in place, including the furnishing of labor and materials and the performance of all excavation, backfilling and incidental work, the sum of \$7.75.	-	-	1,281 25
	For each ton of riprap furnished and placed, including all grading and incidental work, \$4.00.			



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*General*

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The Commonwealth of Massachusetts

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ANNUAL REPORT

OF THE

Department of Public Works

For the Year Ending November 30, 1932







# The Commonwealth of Massachusetts

## THIRTEENTH ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1932

*To the Honorable Senate and House of Representatives of the  
Commonwealth of Massachusetts*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the thirteenth annual report of the Department of Public Works for the year ending November 30, 1932.

The organization of the Department, as defined in chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:—

Commissioner of Public Works, FRANK E. LYMAN.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, HERMAN A. MACDONALD.

The Department has completed during the year many of the projects inaugurated during the previous year under the provisions of the special legislation, chapter 221, Acts of 1931, which made possible the employment of many men on highway work.

The mileage of new State highways laid out during the year amounted to 57.17 miles, but there were abandoned or discontinued 16.21 miles of State highways, so that the net mileage of State highways amounted to 1,810.63 miles at the end of the year.

The Department has constructed, reconstructed and widened 85.041 miles of State highways and built 156.648 miles of roads in cooperation with cities, towns and counties under the provisions of chapter 90, General Laws, and, in addition has constructed 62.902 miles of highways under the provisions of Special Acts. Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and maintenance of 8,830 miles of public ways, exclusive of State highways in 178 towns.

In accordance with the provisions of chapter 122, Acts of 1931, which provided for the construction of an office building to accommodate the activities of the Department, including the executive and engineering offices, as well as the Registry of Motor Vehicles, a contract was executed with the F. V. Warren Co., of Philadelphia, Penn., for the erection of the building. The work of construction was carried on under the supervision of the Architect, Edward T. P. Graham, of Boston. A supplementary appropriation, Chapter 21, Acts of 1932, provided sufficient additional funds so that a portion of the facing of the building is of Massachusetts granite. The Department believes that this building will satisfactorily provide for its activities and that the concentration of the various subdivisions into one location with adequate space and light will insure more efficient operation.

The engineering and clerical staff of the Department was as follows:—

Chief Engineer, ARTHUR W. DEAN.

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND C. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:—

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.



District No. 2, H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor, — JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston harbor, FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

### *Registry of Motor Vehicles*

Registrar, MORGAN T. RYAN.

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,

December 1, 1932.

*Commissioner of Public Works.*

### SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

The construction and improvement of certain highways within and near the Metropolitan Parks District. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 38, Resolves of 1931. (Senate 43 of 1932).

New bridge over Saugus River between the city of Revere and the city of Lynn. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 51, Resolves of 1931. (House 478 of 1932).

Construction of a bridge over the Weymouth Fore River. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 54, Resolves of 1931. (Senate 42 of 1932).

Reconstructing Fox Hill Bridge over Saugus River between Saugus and Lynn. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 56, Resolves of 1931. (House 479 of 1932).

Construction of a breakwater or other protection for the shores of the town of Winthrop. Report made Dec. 1, 1931, by the Department of Public Works, under Order of Senate adopted June 1, 1931. (Senate 41 of 1932).

Proposed connecting links between existing state highways. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 32, Resolves of 1931. (House 42 of 1932).

Public access to Lake Marguerite, or Simon's Pond, in the town of Sandisfield. Report made Mar. 3, 1932, by the Department of Public Works, under chapter 453, Acts of 1923. (House 1220 of 1932).

Making of surveys and preparation of plans and estimates of cost of a grade separation at the intersection of the riverway and Huntington avenue in the city of Boston. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 450, Acts of 1931. (House 480 of 1932).



## RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 2, 1932, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. The Department recommends legislation to facilitate the matter of making alterations of grade crossings which are in direct continuation of a State highway or of a proposed State highway.

2. The Department also recommends legislation to facilitate the matter of laying out of new State highways across railroads already constructed, subject to approval by the Department of Public Utilities.

3. In order that the Department may have a legal check on the weight of broken stone and other material for delivery on highway contracts, the Department recommends legislation to provide that the weights and measures officials be provided with specific authority to direct a truck transporting such material to a particular scale for weighing.

4. In order to insure that the records of the Registrar of Motor Vehicles shall be used principally, in so far as the public is concerned, for their protection in recovering damages after accidents and related matters, and by governmental agencies in the collection of taxes and the enforcement of the laws, certain procedure is recommended regarding their use, and provision made that fees may be charged for information requested.

5. The Department recommends legislation to clarify the law relating to the amount of the fee to be charged for the registration of motor vehicles used by the Commonwealth or any political subdivision thereof, so that the fee of \$2 will apply to automobiles and trailers, but not to motor cycles, the fee for which is defined as \$1.50.

6. The Department believes that the law defining "way" as applied to the operation of motor vehicles should be defined as any public highway, private way laid out under authority of statute, way dedicated to public use, way under control of park commissioners, or any place to which the public has a right of access.

7. In order to avoid delay, and to simplify the procedure in promptly removing unsafe vehicles from the highway, provision should be made for the suspension as well as revocation of registrations.

8. In order to reduce the hazards of highway operations the Department recommends legislation to require rear end reflecting devices on certain trucks, a device to indicate to the driver of a vehicle whether or not headlights are functioning, and to prohibit the use of red lights in the direction in which the vehicle is facing.

## APPROPRIATIONS

Chapter 170, Acts of 1932, making appropriations for the maintenance of Departments, Boards, Commissions, Institutions and certain activities of the Commonwealth, etc., is, in part, as follows:

*Requirements for Extinguishing the State Debt*

Item

214. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of nine hundred sixteen thousand one hundred thirty-two dollars and forty-nine cents, payable from the following accounts and funds in the following amounts:—from the surplus of sinking fund revenue, one hundred fifty-five thousand dollars; from the Highway Fund, two hundred thirty-nine thousand one hundred thirty-two dollars and fifty cents; and the remainder from the General Fund

\$916,132 49

214a. To meet one fourth of the expenditures authorized



## Item

by sections one and two of chapter one hundred and twenty-two of the acts of nineteen hundred and thirty-one, and already in the main incurred, which is the proportionate part intended to be ultimately met by the commonwealth during the current fiscal year, thereby reducing by the sum hereby appropriated the amount that may be borrowed under section three of said chapter, without otherwise affecting the authority to borrow under said section three the remainder of the amount authorized to be borrowed thereunder, the sum of two million one hundred and twenty-five thousand dollars, the same to be paid from the Highway Fund . . . . . 2,125,000 00

*Interest on the Public Debt*

215. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding seven hundred ninety-eight thousand four hundred twenty-seven dollars and twenty-five cents, of which sum two hundred fifty-six thousand three hundred sixty-three dollars and seventy five cents shall be paid from the Highway Fund . . . . . 798,427 25

*Service of the Department of Banking and Insurance*

## Division of Insurance:

298. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred ninety thousand four hundred dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund . . . . . 190,400 00

*Service of the Department of Corporations and Taxation*

## Corporation and Tax Divisions:

305. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred twenty-eight thousand seven hundred dollars, of which sum not more than fifty thousand dollars, may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so-called . . . . . 228,700 00

*Service of the Department of Public Safety*

## Division of State Police:

561. For the salaries of officers, including detectives, a sum not exceeding four hundred thirty-seven thousand two hundred dollars, of which sum not more than one hundred thirty-eight thousand five hundred and twenty dollars may be charged to the Highway Fund . . . . . 437,200 00
563. For other necessary expenses of the uniformed division, a sum not exceeding three hundred ninety-one thousand one hundred dollars, of which sum not more than one hundred sixty-five thousand four hundred and sixty dollars may be charged to the Highway Fund . . . . . 391,100 00

## Item

*Service of the Department of Public Works*

The appropriations made in the following three items are to be paid two thirds from the Highway Fund and one third from the Port of Boston receipts:

582.	For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars	19,500 00
583.	For personal services of clerks and assistants to the commissioner, a sum not exceeding nine thousand and sixty dollars	9,060 00
584.	For traveling expenses of the commissioners, a sum not exceeding two thousand and forty dollars	2,040 00
Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):		
585.	For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding ninety thousand dollars	90,000 00
586.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding ten thousand five hundred dollars	10,500 00
587.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand dollars	12,000 00
588.	For the construction and repair of town and county ways, a sum not exceeding one million six hundred thousand dollars	1,600,000 00
589.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million four hundred fifty thousand dollars	1,450,000 00
590.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the purchase and improvement of a nursery for roadside planting, a sum not exceeding four million five hundred thousand dollars	4,500,000 00
591.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding four million one hundred thousand dollars	4,100,000 00
592.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand dollars, to be paid from the General Fund	15,000 00

*Registration of Motor Vehicles:*

593.	For personal services, a sum not exceeding nine hundred seventy-one thousand dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	\$971,000 00
594.	For services other than personal, including traveling	



## Item

	expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding five hundred sixty-six thousand dollars, to be paid from the Highway Fund	566,000 00
595.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding fifteen hundred dollars, to be paid from the Highway Fund . . . . .	1,500 00
	Special:	
596.	For expenditures by the department of public works, as authorized by chapter four hundred and twenty of the acts of nineteen hundred and thirty, a sum not exceeding five hundred fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund . . . . .	550,000 00
	Functions of the department relating to waterways and public lands:	
597.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-two thousand dollars . . . . .	52,000 00
598.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding two thousand dollars . . . . .	2,000 00
599.	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding forty-seven hundred dollars . . . . .	4,700 00
600.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding twenty-two thousand five hundred dollars . . . . .	22,500 00
601.	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding seventy-five thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered . . . . .	75,000 00
602.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with	

## Item

	section thirty-three of chapter ninety-one of the General Laws, as amended, a sum not exceeding one thousand dollars	1,000 00
603.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars	500 00
604.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred six thousand dollars, to be paid from the Port of Boston receipts	106,000 00
605.	For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars	8,000 00
606.	For the maintenance and improvement of commonwealth property, under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding eighty-five thousand dollars, to be paid from the Port of Boston receipts	85,000 00
607.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding eleven thousand four hundred dollars	11,400 00
608.	For the compensation of dumping inspectors, a sum not exceeding one thousand dollars	1,000 00
609.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars	4,000 00
	Specials:	
610.	For dredging channels and filling flats, a sum not exceeding fifty thousand dollars, to be paid from the Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose	50,000 00
611.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding thirty-eight hundred dollars	3,800 00
	The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:	
633.	For maintenance of boulevards and parkways, a sum not exceeding five hundred fifty thousand dollars	550,000 00
634.	For resurfacing of boulevards and parkways, a sum not exceeding three hundred thousand dollars	300,000 00
635.	For the construction of certain boulevards by the Metropolitan district commission, as authorized by chapter four hundred and fifty of the acts of nineteen hundred and thirty-one, a sum not exceeding two hundred thousand dollars	200,000 00
636.	For the maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding fifty-two hundred and twenty-five dollars	5,225 00



## Item

## DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

*Department of Public Safety*

## Division of State Police:

- For other necessary expenses of the uniformed division, the sum of twenty thousand one hundred thirty-four dollars and forty-five cents, of which sum not more than eight thousand forty-eight dollars and thirty-seven cents may be charged to the Highway Fund . . . . . 20,134 45

*Department of Public Works*

- For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general, and for care and repair of road-building machinery, for the years nineteen hundred and twenty-nine and nineteen hundred and thirty, the sum of three hundred twenty-five dollars and sixty-five cents, to be paid from the Highway Fund . . . . . 325 65

Chapter 307, Acts of 1932, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

*Interest on the Public Debt*

215. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding one hundred thirty-four thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose; and sixty-five thousand dollars of this sum may be paid from the Highway Fund . . . . . 134,000 00

*Service of the Department of Public Works*

585. For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding two thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund . . . . . 2,000 00

## Registration of Motor Vehicles:

593. For personal services, a sum not exceeding twelve hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund . . . . . 1,200 00

## Specials:

- 596a. For linoleum, furnishings and equipment for the new office building for the department of public works, a sum not exceeding fifty thousand dollars, to be paid from the Highway Fund . . . . . 50,000 00
- 596b. (This item combined with item 653a.)
- 596c. (This item combined with item 653b.)
- 596d. For the construction of a bridge over Saugus river, as authorized by chapter two hundred and forty-one of the acts of the present year, a sum not ex-

## Item

	ceeding two hundred thousand dollars, to be paid from the Highway Fund and to be in anticipation of such further appropriations as are required to complete the work authorized by said chapter	200,000.00
596e. For	plans and other preliminary expenses for the construction of a bridge over Weymouth Fore river, as authorized by chapter thirty-two of the resolves of the present year, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund	25,000 00
596f. For	certain highway improvements in the city of Revere by the state department of public works, as authorized by chapter four hundred and forty-five of the acts of nineteen hundred and thirty-one, as amended by chapter two hundred and fifty-eight of the acts of the present year, at a cost not exceeding the total of one million three hundred and fifty-five thousand dollars, of which sum two hundred thousand dollars is hereby appropriated in anticipation of such further appropriations as are required to complete the work authorized by said chapters, to be paid from the Highway Fund. The department is hereby authorized to incur expenses from time to time, as may be required, within the sums authorized by said chapters. The appropriation for the current year is hereby allocated as follows:	
	For work authorized by section one of said chapter four hundred and forty-five	\$125,000 00
	For work authorized by section two of said chapter four hundred and forty-five	50,000 00
	For work authorized by section three of said chapter four hundred and forty-five	25,000 00
<i>Functions of the Department relating to Waterways and Public Lands:</i>		
611a. For	dredging in Quincy bay, as authorized by chapter two hundred and twenty-two of the acts of the present year, a sum not exceeding six thousand dollars, payable from the General Fund, and in addition thereto the sum of three thousand dollars to be assessed upon the cities and towns of the metropolitan district as provided by law	9,000 00
611b. For	the construction of a shed on the New Bedford state pier, as authorized by chapter two hundred and seventy-three of the acts of the present year, a sum not exceeding seven thousand dollars	7,000 00
611c. For	the construction of a sluiceway between Gooseberry Neck island and the mainland in the town of Westport, as authorized by chapter two hundred and sixty-five of the acts of the present year, a sum not exceeding seventy-five hundred dollars	7,500 00
611d. For	the construction of a breakwater along the shore in the town of Winthrop, as authorized by chapter two hundred and fifty-six of the acts of the present year, in the following amounts:—seventy-five thousand dollars from the General	



Fund, twenty-five thousand dollars from the Highway Fund, and twenty-five thousand dollars to be assessed upon the cities and towns in the metropolitan district in accordance with the provisions of law . . . . .

125,000 00

*Unclassified Accounts and Claims*

642. For the compensation of certain public employees for injuries sustained in the course of their employment, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as amended, a sum not exceeding nine thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose . . . . .

9,000 00

648. For the payment of claims authorized by certain resolves of the present year, a sum not exceeding fifteen thousand seven hundred eighty-two dollars and fifty-eight cents, of which sum thirty-three hundred and fifty-three dollars shall be charged to the Highway Fund. Said payments shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted in full compensation on the part of the commonwealth in respect thereto . . . . .

15,782 58

OTHER APPROPRIATIONS

596g. For land damages and other expenses incidental to the laying out of a state highway extending from Alewife Brook parkway in the city of Cambridge through said city and certain towns, including Concord, as authorized by chapter three hundred and two of the acts of the present year, a sum not exceeding two hundred and seventy thousand dollars, to be paid from the Highway Fund and to be in anticipation of a further appropriation of two hundred and thirty thousand dollars to be made in the fiscal year nineteen hundred and thirty-three . . . . .

270,000 00

633. For maintenance of boulevards and parkways, a sum not exceeding twenty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and to be paid from the Highway Fund with the approval of the metropolitan district commission . . . . .

25,000 00

*Service of the Department of Public Works*

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the purchase and improvement of a nursery for roadside planting, the sum of six hundred seventy dollars and ninety-five cents, to be paid from the Highway Fund . . . . .

670 95

*Metropolitan District Commission*

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, unless otherwise provided, and are to be expended under the direction and with the approval of the metropolitan district commission:

- 653a. For the reconstruction of the junction of South Border road, Forest street, and Fellsway West in the city of Medford, as authorized by chapter two hundred and seven of the acts of the present year, a sum not exceeding thirty thousand dollars, of which sum fifteen thousand dollars shall be paid from the Highway Fund . . . . . 30,000 00
- 653b. For the reconstruction of the existing roadway along the Nantasket beach reservation in the town of Hull, as authorized by chapter two hundred and ten of the acts of the present year, a sum not exceeding thirty thousand dollars, and the remainder shall be paid from item 634 of chapter one hundred and seventy of the acts of the present year . . . . . 30,000 00

*Department of Public Works*

The sum authorized by chapter two hundred and forty-three of the acts of the present year to be paid to certain towns is hereby increased by the sum of twenty-eight hundred and fifty dollars, which is payable from item 589 of chapter one hundred and seventy of the acts of the present year.

A transfer in the sum of one hundred and fifty thousand dollars is hereby made from item 588 of chapter one hundred and seventy of the acts of the present year, and said sum is hereby added to item 590 of said chapter one hundred and seventy. The department of public works, in the event that certain property located on D street in South Boston is sold for commercial purposes, may construct a building to be used as a garage at an expense not exceeding one hundred thousand dollars.



## FINANCIAL STATEMENTS

## Summary of Income, Year Ending November 30, 1932

## HIGHWAY FUND

*Section 34, Chapter 90, General Laws, as amended**(See Chapter 288, Acts of 1925.)*

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts	\$6,409,425 22	
Gasoline tax, gross	16,942,343 49	
Contributions for highways and assessments (G. L., Ch. 81)	359,493 87	
Appropriation balances of previous years reverting	50,387 05	
Contributions and refunds	63,666 48	
Sale of old materials and buildings	3,194 46	
Reimbursement for repairs to guard rail and other property	5,927 40	
Rent of property	75 00	
		\$23,834,512 97
Less refunded receipts		362,482 67
		<u>\$23,472,030 30</u>

## PORT OF BOSTON FUND

*(Chapter 91, General Laws)*

Rents (leases and permits)	\$206,504 28	
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	2,209 17	
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.)	194,098 83	
Use of Commonwealth Pier No. 1 (rentals, etc.)	318 23	
Use of Hayward Creek Property (rentals)	16 00	
Revenue from permits for dumping dredged material at receiving basins	5,885 55	
License charges (for tidewater displacement and occupying Commonwealth tide lands) Boston Harbor	67,227 56	
Telephone pay station receipts	83 81	
Sales of land and Building D St. Garage (partial payment)	39,000 00	
Sales of Boston Harbor maps	75	
Sundries	98 12	
Coal Penalties	22 88	
Appropriation balances of previous years reverting	578 64	
		<u>\$516,043 82</u>

## DEPARTMENT INCOME

*(Ordinary Revenue)*

Reimbursement for services (heating D Street Building)	\$149 68
Sales (specifications and plans for contracts)	924 25
Interest on Bank accounts	842 36
Aircraft licenses	555 00

Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, ch. 196, Acts of 1925)	125 19	
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	1,732 99	
Certified copying charges	100 06	
Sale of Atlas sheets and miscellaneous plans	629 95	
Use of Province Lands (S. 25, C. 91, G. L.)	196 15	
Permits for advertising signs	13,598 87	
Use of New Bedford State Pier	14,460 09	
Reimbursement a/c removal of wreck	9,000 00	
		<u>\$42,314 59</u>

## IMPROVEMENT OF RIVERS AND HARBORS TRUST

(Sections 11, 29, chapter 91, General Laws)

Contributions from towns, individuals or others	\$45,200 00
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## HIGHWAY TRUST

(Section 30, Chapter 81, General Laws)

Federal Aid (Reimbursement from United States Government)	2,239,234 98	
<i>Funds Contributed for Work under Special Acts</i>		
Geological Survey Trust Fund (Chapter 138, Acts of 1932). Contributions from individuals	2,520 00	
Total		<u>\$26,317,343 69</u>

## Expenditures

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 170 and 307, Acts of 1932, during the fiscal year ending Nov. 30, 1932, were as follows:

## ADMINISTRATIVE

Commissioners, Associate Commissioners, personal services of clerks, stenographers, and commissioners' travel	\$30,155 00	
Public Works Department Building, land and services	955,959 05	
		<u>\$986,114 05</u>

## RELATING TO HIGHWAYS

<i>Personal Services</i> —Chief Engineer, clerks and stenographers	\$91,107 12	
<i>State Highways</i> —Construction (Chapter 81, G. L.)		
General Contract Work	\$2,199,899 94	
Engineering (Supervision)	676,817 04	
Rent of offices, Commonwealth Pier 5	7,200 00	
Highway Testing Laboratory	16,991 44	
Hingham—Hull (Chapter 119, Acts of 1931)	173,824 67	
		<u>3,074,733 09</u>
<i>Maintenance and Repair of State Highways</i> (Chapter 81, General Laws)		
<i>Reconstruction of State Highways</i>		
General Contract Work	3,047,654 84	
Engineering, supervision on reconstruction	425,777 36	
		<u>3,473,432 20</u>



*Ordinary Maintenance*

General Maintenance . . . . .	1,517,974 63	
Engineering (supervision) . . . . .	318,996 63	
Highway Testing Laboratory . . . . .	11,717 90	
Care and repair of road building machinery . . . . .	174,575 48	
Removal of snow from highways . . . . .	429,933 53	
Roadside planting and development . . . . .	69,615 86	
Traffic engineering, signs and traffic count . . . . .	189,144 04	
Paint Manufacture . . . . .	24,183 94	
Newburyport Bridge, Salisbury-Newburyport over Merrimack River, maintenance and operation . . . . .	6,839 12	
Brightman St. Bridge, Fall River-Somerset, maintenance and operation . . . . .	13,225 34	
New Bedford-Fairhaven Bridge, Acushnet River (Chapter 426, Acts of 1930) . . . . .	18,176 50	
Route and detour maps . . . . .	3,868 70	
Rent for offices at Commonwealth Pier 5 . . . . .	7,200 00	
Rent for offices at D Street . . . . .	11,250 00	
Construction of D Street Garage . . . . .	26,492 70	
Heating plant at D Street . . . . .	1,880 20	
		2,825,074.57
<i>Construction and Repair of Town and County Ways</i> (Section 34, Chapter 90, General Laws)		
State's expenditures for work contracted for in cities and towns . . . . .	1,447,854 60	
Engineering and expense (supervision) . . . . .	376,665 36	
Rent of offices, Commonwealth Pier 5 . . . . .	3,600 00	
		1,828,119 96
<i>Aiding Towns in the Repair and Improvement of Public Ways</i> (Section 26, Chapter 81, General Laws, as amended.)		
State's expenditures for work contracted for in cities and towns . . . . .	908,724 99	
Engineering and expense (supervision) . . . . .	84,639 22	
		993,364 21
<i>Special Acts:</i>		
Expenditures under the provisions of Chapter 122, Acts of 1931 . . . . .		4,391,619 84
Distribution of gasoline tax to towns receiving aid under the provisions of Section 4, Chapter 122, Acts of 1931, as amended by Chapter 243, Acts of 1932 . . . . .		5,500,000 00
Distribution of gasoline tax to towns receiving aid under the provisions of Section 4, Chapter 122, Acts of 1931, as amended by Chapter 243, Acts of 1932 (Sec. 26, Chap. 81) . . . . .		459,150 00
Incidentals (printing, postage, supplies, etc.) . . . . .		10,297 19
Advertising signs, regulation of personal services and expenses . . . . .		15,049 38
Southern Traffic Route Construction (Chapter 330 and 344, Acts of 1925 and Section 4, Chapter 369 and 398, Acts of 1926) . . . . .		217 68

<i>Expenditures in the Western Counties</i> under Chapter 221, General Acts of 1915 and Chapter 572, Acts of 1920 . . . . .		916 18
<i>Highways in Malden, Braintree, Weymouth</i> <i>and Hingham</i>		
Hingham, Braintree and Weymouth . . . . .		9,862 85
<i>Highways on Metropolitan District</i> (Chap- ter 420, Acts of 1930, as amended by Chapter 450, Acts of 1931)		
Section 1. Canton, Dedham, Wellesley, etc. . . . .	850,285 51	
Section 2. Canterbury Street, Boston . . . . .	480,564 31	
Section 3. Landtaking-Neponset River, Milton . . . . .	140,026 13	
Section 4. West Roxbury-Brookline Parkway . . . . .	783,758 60	
Section 5. Broadway, Revere Beach Parkway-grade separation, Everett . . . . .	140 00	
		<hr/> 2,254,774 55
Abolition of Grade Crossings (Chapter 417, Acts of 1930) . . . . .		177,271 24
<i>Plans for New Saugus River Bridge</i> (Re- solves 51, Chapter 460, Acts of 1931) . . . . .		2,419 17
<i>Study Weymouth Fore River Bridge</i> (Re- solves 54, Chapter 460, Acts of 1931) . . . . .		457 60
<i>Plans for Weymouth Fore River Bridge</i> Chapter 32, Resolves of 1932) . . . . .		4,320 45
<i>Construction of Saugus River Bridge</i> (Chapter 241, Acts of 1932) . . . . .		4,315 64
<i>Expenditures under Chapter 258, Acts of</i> <i>1932.</i>		
Section 1. State Highway, Revere . . . . .	16,579 06	
Section 2. Boston-Revere . . . . .	3,128 62	
Section 3. Ocean Ave., Revere . . . . .	1,511 84	
		<hr/> 21,219 52
<i>Alewife Brook Parkway Extension</i> (Chap- ter 302, Acts of 1932) . . . . .		22,465 17
<i>Suppression of gypsy and brown-tail moths</i> <i>on State Highways in cities and towns</i> . . . . .		11,825 93
<i>Total Expenditures for Highways</i> . . . . .		<hr/> \$25,172,013 54

## EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles . . . \$1,518,340 68

## SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses . . . . .	\$53,304 80
<i>Boston Harbor:</i>	
Maintenance and operation, Commonwealth Pier 1, East Boston . . . . .	7,821 80
Maintenance and operation, Commonwealth Pier 5, South Boston . . . . .	99,078 46
Maintenance of property . . . . .	109,380 02
Dredging and filling . . . . .	46,747 53
Streets, piers and railroads . . . . .	6,224 38
Removal of hulks, East Boston (Ch. 465, Acts of 1931) . . . . .	64,932 46
<i>Outside of Boston Harbor:</i>	
Improvement of rivers and harbors . . . . .	79,415 77
Repairing damages to shore . . . . .	26,399 21
New Bedford State Pier, operation and maintenance . . . . .	10,828 29



Construction and alterations	7,361 70
Construction of steel shed (Ch. 273, Acts of 1932)	6,286 09
Expenses of province lands	4,698 79
Expenses of Plymouth property	4,248 44
Topographical survey	990 40
Stream gauging	4,000 00
Surveying state and town boundaries	324 00
Compensation for services of dumping inspectors	478 24
Chapter 407, Acts of 1931, Marshfield shore protection	84,547 84
Chapter 424, Acts of 1931, Scituate shore protection	17,326 96
Long Beach, Rockport	7,390 57
Chapter 405, Acts of 1931, Taunton River Improvement	960 22
Chapter 441, Acts of 1931, Construction of Pier, Cape Cod Canal	170,893 32
Chapter 138, Acts of 1930, Geological survey	
Trust Fund	290 10
	<hr/>
	\$813,929 39

#### SUMMARY OF EXPENDITURES BY DEPARTMENT FOR YEAR ENDING NOVEMBER 30, 1932

Administrative	\$986,114 05
Relating to Highways	25,172,013 54
Registry of Motor Vehicles	1,518,340 68
Relating to Waterways	813,929 39
	<hr/>
Total	\$28,490,397 66

#### COOPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended, of approximately \$2,707,176.77 for cooperative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

#### RELATING TO HIGHWAYS

##### GENERAL STATEMENT

*State Highways.*—During the year ending Nov. 30, 1932, the Department laid out new State highways amounting to 57.17 miles in 30 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1931, 16.21 miles of State highways were discontinued or abandoned. The total length of State highways at the end of the year was 1,810.63 miles.

*Highways Constructed in 1932.*—Construction has been completed on 12.025 miles of State highways, 156.648 miles of highways under the provisions of section 34, chapter 90, General Laws, as amended, and 62.902 miles of highways under the provisions of special acts, making a total of 231.575 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:—30.720 miles of reinforced cement concrete; 5.604 miles of sheet type cement concrete; 3.888 miles of dual (reinforced concrete and bituminous macadam); 76.429 miles of bituminous macadam; 3.536 miles of bituminous concrete; 50.549 miles of bituminous type concrete (mixed in place); 0.625 mile of "Temperature Resisting" concrete; 40.657 miles of gravel with a bituminous treatment; 19.575 miles of gravel.

*Resurfacing, Reconstruction and Widening of State Highways.*—During the year 11.786 miles of State highways were widened but not re-



surfaced, and 61.230 miles were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be completed next year.

The resurfacing or reconstruction of State highways in 1932 was divided into types as follows:—1.371 miles of reinforced cement concrete; 2.693 miles of dual type (reinforced concrete and bituminous macadam); 43.622 miles of bituminous macadam; 13.090 miles of bituminous concrete; 0.454 miles of gravel with a bituminous treatment.

*Surveys, Plans, and Estimates.*—During the year ending Nov. 30, 1932, preliminary surveys, plans and estimates were made as follows:

*For State Highway Construction.*—Preliminary surveys in 24 towns, 42.590 miles; plans in 28 towns, 51.914 miles; preliminary estimates in 26 towns, 52.538 miles; lines and grades in 40 towns, 55.003 miles; and final surveys in 44 towns, 60.307 miles.

*For State Highway Reconstruction and Resurfacing.*—Preliminary surveys in 21 towns, 52.335 miles; Plans in 32 towns, 55.819 miles; Preliminary estimates in 28 towns, 69.778 miles; lines and grades in 30 towns, 70.627 miles, and final surveys in 33 towns, 77.771 miles.

*Under Section 34, Chapter 90, General Laws, as amended.*—Preliminary surveys in 120 towns, 169.553 miles; plans in 119 towns, 166.991 miles; preliminary estimates in 110 towns, 78.588 miles; lines and grades in 114 towns, 179.859 miles; and final surveys in 65 towns, 77.398 miles.

Under the provisions of various Acts and Resolves, surveys, plans, estimates, lines and grades, and final surveys were made as follows:

Chapter 420, Acts of 1930, Section 1:—11.053 miles of lines and grades, and final surveys in 5 towns.

Chapter 420, Acts of 1930, Section 2:—2.064 miles of preliminary survey and plans, lines and grades, and final survey in 1 city.

Chapter 420, Acts of 1930, Section 3:—0.568 miles of reconnaissance survey and plans in 1 town.

Chapter 420, Acts of 1930, Section 4:—2.710 miles of lines and grades, and final survey in 1 city and 1 town.

Chapter 445, Acts of 1931, Section 1:—0.634 miles of survey and plans in 1 city; 0.919 miles of estimate and lines and grades in 1 city.

Chapter 445, Acts of 1931, Section 2:—0.344 miles of reconnaissance survey and plans in 1 city; 0.277 mile of preliminary survey and plans in 1 city; 0.645 mile of estimate in 1 city.

Chapter 445, Acts of 1931, Section 3:—0.116 mile of preliminary survey in 1 city; 0.487 mile of estimate in 1 city.

Chapter 302, Acts of 1932: 14.4 miles of survey and plans in 1 city and 4 towns.

Chapter 51, Resolves of 1931: 0.505 mile of estimates and lines and grades in 2 cities.

Chapter 32, Resolves of 1932: 0.72 mile of reconnaissance survey and plans in 1 city and 1 town.

*Grade Crossing Elimination.*—Chapter 417, Acts of 1930:—0.541 mile of lines and grades and final survey in 1 town.

*Reconnaissance.*—117 miles of survey and plans in 34 towns; 27 miles of estimate in 11 towns and 2 cities.

*Chapter 90 Reconnaissance.*—23 miles of surveys and plans in 10 towns.

*Precise Levels* have been made, covering 460 miles in 40 towns; 45 Bench Mark disks have been set in 28 towns.

Plans to accompany decrees for street railway locations on State highways have been made in 1 town.

*Permits.*—There were 1,991 permits issued during the year for opening or occupying State highways for various purposes.

*Engineering Advice to Municipal Authorities.*—The Department furnished engineering advice without charge to 47 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.



*Approval of Specifications.*—The Department approved during the year, under the provisions of section 7, chapter 44, General Laws, as amended, specifications for the construction of roads in 13 towns and cities.

*Approval of Bridge Plans.*—The Department approved during the year, under the provisions of chapter 313, Acts of 1923, plans for the construction of bridges in 9 towns and cities.

#### PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, Chapter 81, General Laws; hearings on appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 81 cases; on the refusal of the Registrar of Motor Vehicles to register a glider; on the matter of special regulations for motor vehicles in Revere, Milton, Framingham, Braintree, Cambridge and Springfield; on the matter of outdoor advertising in 4 towns and cities; on a petition for the relocation of street railway tracks in Worcester; on the matter of inspecting motor vehicles, trailers and school buses under the provisions of Chapter 271 of the Acts of 1932; in the matter of a geological survey under the provisions of Chapter 138 of the Acts of 1932; on a matter governing the use and operation of gliders under the provisions of Section 58, Chapter 90; and on the abolition of grade crossings in Walpole, Sharon, Belmont, Medford, and Lynn.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	26	52
Work under section 34, chapter 90, General Laws, as amended		327
Work under section 26, chapter 81, General Laws, as amended	179	179
Work under Special Acts		3
Miscellaneous		16
Total	205	577

#### STATE HIGHWAYS

##### PETITIONS FOR STATE HIGHWAYS

General Laws, chapter 81, section 4, as amended, provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the Commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows:—

**SELECTMEN OF WESTWOOD:** — Road extending from a point on the dividing line between the towns of Norwood and Westwood about 1,900 feet east of Ellis Station northerly, over a new location, to a point on the dividing line between the towns of Westwood and Dedham, near the Islington Branch of the New York, New Haven & Hartford Railroad. Received Dec. 5, 1931.

**SELECTMEN OF WEST SPRINGFIELD:** — Road locally known as Westfield Street, extending from its junction with Kings Highway southeasterly to its junction with Summit Street. Received Dec. 2, 1931.

**SELECTMEN OF PALMER:** — Road locally known as Thorndike Street, ex-

tending from Main Street in Depot Village northerly to Lake Junction at its intersection with the River Road. Received Dec. 14, 1931.

**SELECTMEN OF EAST LONGMEADOW:** — Road locally known as South Main Street, extending from its junction with Chestnut Street southerly to the Somers, Conn., line. Received Dec. 10, 1931.

**SELECTMEN OF NORWOOD:** — Road extending from a point on Neponset Street at its junction with the 1931 State highway layout northerly, over a new location, to a point on the dividing line between the towns of Norwood and Westwood about 1,900 feet east of Ellis Station. Received Dec. 16, 1931.

**SELECTMEN OF BELCHERTOWN:** — Road locally known as Parker Road, extending from the new Ware Road northwesterly to the Amherst Road. Also road locally known as Enfield Road, extending from said new Ware Road southwesterly to the Amherst Road. Received Dec. 30, 1931.

**MAYOR AND ALDERMEN OF PITTSFIELD:** — Road extending from a point on Lebanon Avenue near the property now or formerly of Frank Smith, southwesterly, over a new location, to a point on said Lebanon Avenue easterly of the bridge over the Boston & Albany Railroad. Received Jan. 5, 1932.

**SELECTMEN OF MILTON:** — Road locally known as Randolph Avenue, extending from Reedsdale Road to Highland Street. Received Jan. 7, 1932.

**SELECTMEN OF BARNSTABLE:** — Road extending from a point on the new State highway leading from Marstons Mills to Hyannis, near Long Pond in Centerville, to a point on Iyanough Road. Received Dec. 3, 1931.

**MAYOR AND BOARD OF STREET COMMISSIONERS OF BOSTON:** — Road extending from Boardman Street northeasterly, over a new location, to the dividing line between the cities of Boston and Revere. Received Apr. 6, 1932.

**MAYOR AND COUNCIL BOARD OF REVERE:** — Road extending from the Revere Beach Parkway at or near Stowers Court southeasterly, over a new location, to the dividing line between the cities of Revere and Boston. Received Apr. 6, 1932.

**SELECTMEN OF WELLESLEY:** — Road locally known as Worcester Street, extending from the dividing line between the towns of Natick and Wellesley to the dividing line between the town of Wellesley and the city of Newton. Received Apr. 15, 1932.

**SELECTMEN OF WEST STOCKBRIDGE:** — Road extending from State Line easterly and southerly through West Stockbridge and Williamsville to the dividing line between the towns of West Stockbridge and Great Barrington. Received May 13, 1932.

**SELECTMEN OF BOURNE:** — Road extending from Trading Post Corner southerly, over a new location, to a point on the Falmouth Road about 1,000 feet north of the dividing line between the towns of Bourne and Falmouth. Received July 9, 1932.

**COUNTY COMMISSIONERS OF BRISTOL COUNTY:** — Road in the town of Dighton, locally known as Somerset Avenue, extending from station 24 of the 1906 State Highway layout northeasterly for about 2,400 feet to the dividing line between the town of Dighton and the city of Taunton at Three Mile River. Received July 26, 1932.

**SELECTMEN OF METHUEN:** — Road locally known as Broadway, extending from the junction of High Street and Broadway northwesterly to the Salem, New Hampshire, line. Received July 22, 1932.

**SELECTMEN OF DEDHAM:** — Road extending from the dividing line between the towns of Westwood and Dedham at or near the Islington Branch of the New York, New Haven and Hartford Railroad, northerly along said Islington Branch and a new location to a point on Washington Street between Dedham Square and the bridge over the New York, New Haven & Hartford Railroad. Received Aug. 9, 1932.

**SELECTMEN OF AMESBURY:** — Road locally known as Merrill and Main



Streets, extending from Elm Street to the dividing line between the town of Amesbury and the city of Newburyport. Received Aug. 25, 1932.

SELECTMEN OF AMESBURY: — Road locally known as Merrill Street, extending from Elm Street to the dividing line between the towns of Amesbury and Salisbury. Received Aug. 27, 1932.

SELECTMEN OF SALISBURY: — Road locally known as Rabbit Road, Willow Street and Main Street, extending from the dividing line between the towns of Salisbury and Amesbury to the New Hampshire State line. Received Aug. 27, 1932.

SELECTMEN OF YARMOUTH: — Road locally known as Iyanough Road, extending from the dividing line between the towns of Barnstable and Yarmouth easterly to the present State highway on South Main Street. Received Sept. 13, 1932.

SELECTMEN OF BARNSTABLE: — Road extending from the 1931 State highway layout on the road from Hyannis to Marstons Mills near Long Pond in Centreville easterly, over a new location, to Iyanough Road, and thence along Iyanough Road to the dividing line between the towns of Barnstable and Yarmouth. Received Sept. 13, 1932.

SELECTMEN OF FRAMINGHAM: — Road locally known as Edgell Road, extending from Worcester Road at Framingham Centre northerly to the dividing line between the towns of Framingham and Sudbury. Received Oct. 10, 1932.

SELECTMEN OF CANTON: — Road locally known as Green Lodge Street, extending from its intersection with the new Circumferential Highway southeasterly to its intersection with Washington Street in Ponkapoag Village. Received Oct. 1, 1932.

SELECTMEN OF SOUTHBRIDGE: — Road locally known as North Woodstock Road, extending from the Connecticut State line northerly to the easterly side of East Main Street in the southeasterly part of the town of Southbridge. Received Nov. 3, 1932.

SELECTMEN OF MILLBURY: — That portion of a trunk highway from Worcester to Providence, R. I., which would pass through the town of Millbury. Received Nov. 5, 1932.

#### CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS (Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities: —

##### *New Bedford*

Dec. 8, 1931, contract made with the Crandall Engineering Company, of Cambridge, for protecting the piers at the ends of the draw span of the Fairhaven-New Bedford Bridge. The proposal amounted to \$7,940.00. Work completed Aug. 27, 1932. Expenditure during 1932, \$66,217.60.

##### *Littleton*

Dec. 29, 1931, contract made with Greenough Construction Co., of Waltham, for constructing about 2,228 feet of State highway on King Street and about 567 feet of State highway on Forge Village Road; the surface on King Street except over the bridge consisting of bituminous macadam, the surface over the bridge consisting of bituminous concrete and the surface on Forge Village Road consisting of gravel. The proposal amounted to \$20,300.60. Work completed Aug. 20, 1932. Expenditure during 1932, \$19,440.70.

##### *Hingham-Norwell*

Dec. 29, 1931, contract made with Arute Bros., Incorporated, of New Britain, Conn., for resurfacing and widening about 11,288 feet of State highway on Whiting Street in Hingham and about 11,283 feet of State



highway on Washington Street in Norwell; the surface consisting of bituminous concrete. The proposal amounted to \$147,538.25. Work completed Sept. 2, 1932. Expenditure during 1932, \$156,227.33.

#### *Worthington*

Jan. 5, 1932, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 31,569 feet of State highway on Huntington Road; the surface consisting of bituminous macadam. The proposal amounted to \$197,406.60. Work completed Oct. 24, 1932. Expenditure during 1932, \$214,076.26.

#### *Andover*

Jan. 5, 1932, contract made with Patrick J. Holland, of Brockton, for reconstructing 14,220 feet of State highway on Main Street; the surface consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$104,727.30. Work completed July 5, 1932. Expenditure during 1932, \$124,075.64.

#### *Northborough-Shrewsbury*

Jan. 5, 1932, contract made with Mario Pandolf Company, Inc., of Needham, for reconstructing about 20,201 feet of State highway on the Boston Post Road in Shrewsbury and about 6,196 feet of State highway on the same road in Northborough; the surface on about 14,960 feet of State highway in Shrewsbury consisting of bituminous macadam, and the remaining surface in Shrewsbury and Northborough consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$225,413.60. Work completed November 18, 1932. Expenditure during 1932, \$248,369.88.

#### *Westfield-West Springfield*

Feb. 2, 1932, contract made with Fred T. Ley & Co., Inc., of Springfield, for reconstructing about 11,587 feet of State highway on Main Street and new location in Westfield and about 1,692 feet of State highway on Main Street in West Springfield; the surface, except over the viaduct, consisting of bituminous concrete. The proposal amounted to \$191,021.26. Work completed Nov. 14, 1932. Expenditure during 1932, \$162,575.81.

#### *Westfield*

Feb. 9, 1932, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for constructing a steel bridge superstructure over the Westfield River at a point on Main Street; the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$83,734.30. Work practically completed. Expenditure during 1932, \$72,236.70.

#### *Shrewsbury*

May 3, 1932, contract made with Ralph H. White, of Auburn, for laying and relaying Cast Iron Water Pipe on the State highway in Shrewsbury, known as the Southwest Connection. The proposal amounted to \$7,470.60. Work completed July 26, 1932. Expenditure during 1932, \$9,218.02.

#### *Oxford*

May 3, 1932, contract made with the New England Building Wrecking Company, of Chelsea, for demolishing the brick power house and moving the building materials from the premises on "Texas Corner" in the town of Oxford. The proposal amounted to \$749.00. Work completed May 18, 1932. Expenditure during 1932, \$749.00.

#### *Waltham*

May 3, 1932, contract made with Greenough Construction Co., of Waltham, for reconstructing about 2,900 feet of State highway on Weston



Street; the surface consisting of bituminous macadam. The proposal amounted to \$27,007.20. Work completed Sept. 8, 1932. Expenditure during 1932, \$34,277.30.

*Belchertown-Granby*

May 3, 1932, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 3,104 feet of State highway on Enfield Road, and about 5,080 feet of State highway on Parker Road in Belchertown, and reconstructing about 16,658 feet of State highway on Belchertown Road in Granby; the surface consisting of bituminous macadam. The proposal amounted to \$125,262.35. Work completed Oct. 20, 1932. Expenditure during 1932, \$130,133.37.

*Middleborough-Rochester-Wareham*

May 4, 1932, contract made with the Eastern Contracting Company, of Quincy, for resurfacing and widening about 1,840 feet of State highway on Wareham Street in Middleborough, about 4,230 feet of State highway on Tremont Street in Rochester, and about 33,311 feet of State highway on Sandusky Road in Wareham; the surface consisting of bituminous macadam. The proposal amounted to \$202,526.55. Work practically completed. Expenditure during 1932, \$162,522.59.

*Whitman*

May 11, 1932, contract made with the Eastern Contracting Company, of Quincy, for reconstructing about 8,925 feet of State highway on Temple Street; the surface consisting of bituminous macadam. The proposal amounted to \$58,181.55. Work completed November 16, 1932. Expenditure during 1932, \$56,350.84.

*Billerica-Chelmsford*

May 10, 1932, contract made with the Central Construction Company, of Lawrence, for resurfacing and widening about 13,300 feet of State highway on the Boston Road in Billerica and about 5,177 feet of State highway on Gorham Street in Chelmsford; the surface consisting of bituminous concrete. The proposal amounted to \$80,126.74. Work completed Sept. 27, 1932. Expenditure during 1932, \$97,492.51.

*Auburn-Oxford*

May 10, 1932, contract made with Frank & Frank Cons. Co., of Providence, R. I., for reconstructing and widening about 5,020 feet of State highway on Charlton Road in Oxford and about 3,000 feet of State highway on Southbridge Street in Auburn; the surface consisting of reinforced cement concrete and bituminous macadam. The proposal amounted to \$55,352.13. Work completed Sept. 15, 1932. Expenditure during 1932, \$66,974.83.

*Edgartown-Oak Bluffs*

May 17, 1932, contract made with O. W. Miller Co., Inc., of Springfield, for reconstructing a creosoted timber pile bridge and bulkheads over Sengekontacket Pond at the dividing line between the towns of Edgartown and Oak Bluffs. The proposal amounted to \$20,113.00. Work completed July 18, 1932. Expenditure during 1932, \$19,662.77.

*Pittsfield*

May 24, 1932, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing and reconstructing about 14,327 feet of State highway on Woodleigh Avenue and new location; the surface consisting of reinforced cement concrete and bituminous macadam. The proposal amounted to \$167,878.90. Work completed Nov. 10, 1932. Expenditure during 1932, \$162,086.06.

*Stoneham*

June 7, 1932, contract made with M. McDonough Co., of Saugus, for reconstructing about 3,006 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$16,597.90. Work completed Aug. 12, 1932. Expenditure during 1932, \$20,719.87.

*Somerset-Fall River*

June 7, 1932, contract made with Burrows and Croke, of Fall River, for repairing the Brightman Street Bridge. The proposal amounted to \$6,083.00. Work completed Aug. 15, 1932. Expenditure during 1932, \$7,446.59.

*Salisbury*

June 14, 1932, contract made with James E. Watkins Company, Inc., of Amesbury, for widening about 1,013 feet of State highway on Beach Road; the surface consisting of bituminous macadam. The proposal amounted to \$12,647.00. Work completed Aug. 1, 1932. Expenditure during 1932, \$13,115.27.

*Hingham*

June 14, 1932, contract made with the National Gunitite Contracting Co., of Boston, for gunitite repairs to the bridge on Summer Street over Mill Stream. The proposal amounted to \$1,032.00. Work completed June 22, 1932. Expenditure during 1932, \$1,178.19.

*Adams*

June 21, 1932, contract made with the Town of Adams for reconstructing about 1,500 feet of State highway on Orchard Street; the surface consisting of bituminous macadam. The proposal amounted to \$13,809.57. Work completed Oct. 27, 1932. Expenditure during 1932, \$11,776.19.

*Charlton*

June 28, 1932, contract made with Perini & Ampollini, of Framingham, for reconstructing about 2,375 feet of State highway on Worcester Road; the surface consisting of bituminous macadam. The proposal amounted to \$33,460.05. Work practically completed. Expenditure during 1932, \$27,105.69.

*Beverly*

June 28, 1932, contract made with Welch & Moynihan Co., of Salem, for reconstructing about 10,605 feet of State highway on Cabot, Dodge and Enon Streets; the surface consisting of bituminous macadam. The proposal amounted to \$36,804.06. Work completed Sept. 2, 1932. Expenditure during 1932, \$36,743.36.

*Newton-Wellesley*

July 19, 1932, contract made with Coleman Bros., Incorporated, of Boston, for constructing reinforced concrete frame bridges over Quinobequin and Chestnut Streets, a steel ribbed three-hinged arch bridge with reinforced concrete floor and concrete abutments and wing walls with stone facing over Centre Street, and a steel stringer bridge with reinforced concrete floor and concrete abutments and wing walls under Parker Street, and to construct about 14,551 feet of State highway on Boylston Street, in Newton, and to construct about 2,443 feet of State highway on Worcester Street in Wellesley; the surface except over the bridges under Parker Street and over the railroad tracks in Newton consisting of reinforced cement concrete with bituminous macadam constructed on each side of a loam section but separated therefrom by bituminous concrete shoulders, and the surface over the bridge under Parker Street and over the railroad tracks consisting of bituminous concrete. The proposal



amounted to \$427,227.21. Work about one-half completed. Expenditure during 1932, \$247,595.59.

*Dighton-Taunton*

July 19, 1932, contract made with James H. Kerr, of Boston, for reconstructing about 1,232 feet of State highway on Somerset Avenue in Taunton and about 2,158 feet of State highway on the same road in Dighton, and constructing a reinforced concrete beam bridge over Three Mile River at the dividing line between Dighton and Taunton; the surface consisting of bituminous macadam. The proposal amounted to \$50,839.00. Work practically completed. Expenditure during 1932, \$38,472.47.

*Lenox-Pittsfield*

July 19, 1932, contract made with the New Haven Road Construction Co., Inc., of New Haven, Conn., for widening about 16,797 feet of State highway on the Pittsfield-Lenox Road in Lenox and about 8,181 feet of State highway on the same road in Pittsfield; the surface consisting of reinforced cement concrete. The proposal amounted to \$129,494.00. Work practically completed. Expenditure during 1932, \$110,118.24.

*West Boylston-Worcester*

Aug. 2, 1932, contract made with Charles E. Horne, of Millbury, for constructing and reconstructing about 5,671 feet of State highway on West Boylston Street and new location in Worcester and about 8,900 feet of State highway on the same road in West Boylston; the surface consisting of bituminous macadam. The proposal amounted to \$78,805.70. Work practically completed. Expenditure during 1932, \$62,336.29.

*Tewksbury*

Aug. 2, 1932, contract made with R. A. Richard & Co., Inc., of Boston, for widening a bridge and approaches on about 1,000 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$6,295.00. Work practically completed. Expenditure during 1932, \$5,502.32.

*Bourne-Falmouth*

Aug. 9, 1932, contract made with the T. J. McCue Construction Company, of Watertown, for constructing and reconstructing about 34,100 feet of State highway in Bourne and Falmouth; the surface consisting of bituminous concrete. The proposal amounted to \$147,937.70. Work just commenced. Expenditure during 1932, \$12,935.17.

*Dedham-Westwood-Needham*

Aug. 16, 1932, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a steel plate girder railroad bridge over the highway in Westwood for the New York, New Haven & Hartford Railroad, constructing deck steel plate girder bridges with reinforced concrete floors in Dedham over the Circumferential Highway, High Street and Williams Street, and constructing about 7,823 feet of State highway on Neponset Street, 5,610 feet of State highway on the same road in Westwood, and about 9,000 feet of State highway on the same road in Dedham; the surface consisting of sections of reinforced cement concrete, bituminous macadam, or combinations of both. The proposal amounted to \$531,597.55. Work about one-fifth completed. Expenditure during 1932, \$120,653.01.

*Wellesley*

Aug. 30, 1932, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing a reinforced concrete rigid frame bridge

over West Road, and constructing about 12,000 feet of State highway on Worcester Street; the surface consisting of reinforced cement concrete with bituminous macadam constructed on each side of a loam section but separated therefrom by bituminous concrete shoulders. The proposal amounted to \$233,099.60. Work about one-sixth completed. Expenditure during 1932, \$24,391.43.

*West Newbury*

Aug. 30, 1932, contract made with Patrick J. Holland, of Brockton, for reconstructing about 13,876 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$56,709.20. Work completed Nov. 21, 1932. Expenditure during 1932, \$42,235.21.

*Blackstone-Millville-Uxbridge*

Aug. 30, 1932, contract made with John F. Kennedy & Company, of Cambridge, for resurfacing and widening about 23,527 feet of State highway on Main Street in Blackstone and Millville and on Millville Road in Uxbridge; the surface consisting of bituminous macadam. The proposal amounted to \$53,644.96. Work about one-third completed. Expenditure during 1932, \$17,019.56.

*Hingham-Cohasset*

Sept. 6, 1932, contract made with V. Barletta Co., of Boston, for constructing a steel stringer bridge over the tracks of the New York, New Haven & Hartford Railroad Company and a reinforced concrete slab bridge over Weir River in Hingham, and constructing about 16,632 feet of State highway on new location in Hingham and Cohasset; the surface except over the bridge over the railroad tracks and on the traffic circle consisting of bituminous macadam, the surface over the bridge over the railroad tracks consisting of bituminous concrete, and the surface on the traffic circle consisting of concrete. The proposal amounted to \$246,603.33. Work about one-sixth completed. Expenditure during 1932, \$59,628.49.

*Wellesley*

Sept. 6, 1932, contract made with the State Construction Co., Inc., of Boston, for constructing a steel stringer bridge under Cedar Street and a reinforced concrete slab bridge over Rosemary Brook, and constructing about 7,183 feet of State highway on Worcester Street; the surface except over the bridge over Rosemary Brook consisting of reinforced cement concrete with bituminous macadam constructed on each side of a loam section but separated therefrom by bituminous concrete shoulders, and the surface over the bridge over Rosemary Brook consisting of bituminous concrete. The proposal amounted to \$178,179.40. Work about one-third completed. Expenditure during 1932, \$21,324.93.

*Belchertown*

Sept. 6, 1932, contract made with the Rome Construction Company, of Quincy, for reconstructing about 14,868 feet of State highway on Granby Road; the surface consisting of bituminous macadam. The proposal amounted to \$59,506.13. Work about one-fifth completed. Expenditure during 1932, \$12,082.55.

*Dalton-Sandisfield-Tolland-Sheffield-Lee-North Adams*

Sept. 6, 1932, contract made with Stephen Carson, of Cambridge, for cleaning and painting seven bridges in Dalton, Sandisfield, Tolland, Sheffield, Lee and North Adams. The proposal amounted to \$850.00. Work practically completed. Expenditure during 1932, \$722.50.



*Lakeville-Middleborough-Raynham-Taunton*

Sept. 6, 1932, contract made with the Eastern Contracting Company, of Quincy, for constructing about 7,360 feet of State highway on Dean Street and new location in Taunton, about 18,967 feet of State highway on new location in Raynham, about 2,475 feet of State highway on new location in Lakeville, and about 4,687 feet of State highway on new location in Middleborough; the surface consisting of sections of bituminous macadam between two sections of reinforced cement concrete, sections of bituminous macadam full width, and sections of reinforced cement concrete full width. The proposal amounted to \$350,333.80. Work just commenced.

*Egremont*

Sept. 13, 1932, contract made with John M. Kelly Co., Inc., of Boston, for widening a bridge and approaches in the town of Egremont; the surface consisting of bituminous macadam. The proposal amounted to \$5,286.25. Work practically completed. Expenditure during 1932, \$3,835.06.

*Ipswich*

Oct. 4, 1932, contract made with the Greenough Construction Co., of Waltham, for reconstructing about 10,991 feet of State highway on High Street; the surface consisting of bituminous macadam. The proposal amounted to \$42,572.65. Work about one-fourth completed. Expenditure during 1932, \$12,932.59.

*Oakham-Rutland*

Oct. 4, 1932, contract made with the Greenough Construction Co., of Waltham, for reconstructing about 14,840 feet of State highway on Worcester Road in Oakham and about 4,400 feet of State highway on the same road in Rutland; the surface consisting of bituminous macadam. The proposal amounted to \$68,862.50. Work just commenced. Expenditure during 1932, \$8,417.29.

*Wellesley*

Oct. 4, 1932, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for constructing steel bridge superstructures over the Boston & Albany Railroad, under Washington Street, and on Cliff Road over the Boston & Albany Railroad. The proposal amounted to \$48,598.51. Work not as yet commenced.

*Wellesley*

Oct. 4, 1932, contract made with Simpson Bros., Corporation, of Boston, for constructing about 5,850 feet of State highway on Worcester Street; the surface consisting of reinforced cement concrete with bituminous macadam constructed on each side of a loam section but separated therefrom by bituminous concrete shoulders except over the bridges at Washington Street and Cliff Road, and the surface over the bridges at Washington Street and Cliff Road consisting of bituminous concrete. The proposal amounted to \$387,735.93. Work just commenced. Expenditure during 1932, \$18,322.00.

*Lee-Stockbridge*

Oct. 11, 1932, contract made with the Crane Construction Company, of Boston, for reconstructing about 5,614 feet of State highway on Main St., in Stockbridge and about 5,000 feet of State highway on the same road in Lee; the surface consisting of bituminous macadam. Work just commenced. Expenditure during 1932, \$6,810.40. The proposal amounted to \$51,425.70.

*Hancock-Pittsfield*

Oct. 11, 1932, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 20,627 feet of State highway in Hancock and Pittsfield; the surface consisting of reinforced cement concrete. The proposal amounted to \$186,537.06. Work just commenced. Expenditure during 1932, \$29,084.68.

*West Springfield*

Oct. 18, 1932, contract made with Fred T. Ley & Co., Inc., of Springfield, for widening about 2,900 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$3,575.00. Work completed Nov. 15, 1932. Expenditure during 1932, \$2,647.81.

*Amesbury-Salisbury*

Oct. 18, 1932, contract made with G. Rotondi & Son, of Melrose, for constructing about 780 feet of State highway on Rabbit Road and Main Street in Amesbury and about 12,945 feet of State highway on Main Street in Salisbury; the surface consisting of bituminous macadam. The proposal amounted to \$57,601.26. Work just commenced. Expenditure during 1932, \$3,932.35.

*Revere*

Nov. 1, 1922, contract made with Joseph F. Cavanagh, of Boston, for reconstructing a concrete culvert on Bennington Street. The proposal amounted to \$7,659.00. Work just commenced. Expenditure during 1932, \$1,556.12.

*West Newbury*

Nov. 1, 1932 contract made with M. McDonough Co., of Saugus, for reconstructing about 13,025 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$46,048.62. Work just commenced. Expenditure during 1932, \$2,413.12.

*Barnstable-Yarmouth*

Nov. 1, 1932, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for constructing about 19,275 feet of State highway on Iyannough Road and new location in Barnstable and Yarmouth; the surface consisting of bituminous concrete. The proposal amounted to \$80,267.95. Work not yet commenced.

## EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various Counties during the year were:—

Barnstable, \$43,051.48	Hampshire, \$339,891.83
Berkshire, \$145,188.03	Middlesex, \$591,766.45
Bristol, \$40,688.06	Norfolk, \$556,031.39
Essex, \$66,195.23	Plymouth, \$240,885.39
Franklin, \$134,787.63	Suffolk, \$262,165.05
Hampden, \$46,775.52	Worcester, \$433,482.36
	Total, \$2,900,908.42

Details of the foregoing expenditures follow:—

*Barnstable County.*—Barnstable, \$24,751.63; Bourne, \$18,288.77; Sandwich, \$.99; Yarmouth, \$10.09.

*Berkshire County.*—Hinsdale, \$20,462.89; Pittsfield, \$124,711.10; Williamstown, \$14.04.

*Bristol County.*—Attleboro, \$2,506.34; North Attleborough, \$16,765.71; Raynham, \$1,250.49; Seekonk, \$18,915.04; Taunton, \$1,250.48.

*Essex County.*—Amesbury, \$3,738.37; Merrimac, \$2,641.28; North Andover, \$46,201.00; Rowley, \$8,063.84; Salisbury, \$5,550.74.



*Franklin County*.—Ashfield, \$26,723.61; Bernardston, \$9,583.25; Charlemont, \$7,749.54; Conway, \$25,868.34; Deerfield, \$31,270.60; Greenfield, \$24,166.19; Orange, \$9,426.10.

*Hampden County*.—Chester, \$27,213.62; Monson, \$317.50; Palmer, \$19,244.40.

*Hampshire County*.—Belchertown, \$79,955.11; Easthampton, \$1,517.07; Huntington, \$14,133.21; Worthington, \$244,286.44.

*Middlesex County*.—Newton, \$446,706.59; North Reading, \$732.31; Reading, \$3,749.63; Tyngsborough, \$68,469.44; Waltham, \$5,243.13; Weston, \$66,865.35.

*Norfolk County*.—Cohasset, \$6,112.69; Dedham, \$119,185.59; Foxborough, \$2,438.81; Milton, \$14,986.05; Norwood, \$66,021.08; Plainville, \$52,753.34; Randolph, \$81,678.54; Wellesley, \$130,911.21; Westwood, \$34,878.41; Wrentham, \$47,065.67.

*Plymouth County*.—Abington, \$3,097.01; Bridgewater, \$1,039.89; Brockton, \$9,565.65; Duxbury, \$55,453.73; Hingham, \$75,272.35; Kingston, \$25,923.97; Lakeville, \$1,250.49; Middleborough, \$55,335.71; Pembroke, \$13,946.59.

*Suffolk County*.—Boston, \$89,630.95; Revere, \$172,534.10.

*Worcester County*.—Athol, \$8,173.55; Dudley, \$97.95; Hopedale, \$22,420.84; Mendon, \$18,171.88; Milford, \$42,693.10; Northborough, \$4,222.84; Shrewsbury, \$87,901.06; Southborough, \$83,408.16; Southbridge, \$49.08; West Boylston, \$59,383.55; Westborough, \$98,084.20; Worcester, \$8,876.15.

#### EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 119, ACTS OF 1931:

Hingham, \$69,268.95

Hull, \$104,555.72

#### EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 122, ACTS OF 1931

##### For State Highway Construction

Auburn—Worcester	\$340,852.26	Northborough—Shrewsbury	\$189,585.20
Erving	80,007.24	Sharon—Norwood—Walpole	380,760.42
Erving—Gill	237,225.58	Uxbridge (Ironstone St.)	255,817.67
Foxborough—Sharon—Walpole—Wrentham	304,532.27	Uxbridge (Millville Rd.)	45,084.43
Framingham—Natick	794,526.66	Williamstown	79,884.48
Framingham—Southborough	207,123.00	Worcester—Shrewsbury	490,824.80
Gill—Erving	33,449.30		
Gill—Greenfield	252,364.30		
Lakeville—Middleborough	240,567.46		
Millbury—Worcester	459,014.77		
			<hr/>
			\$4,391,619.84

#### MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws). The expenditures during the year in various counties were:—

Barnstable, \$128,108.37	Hampshire, \$217,728.61
Berkshire, \$670,447.51	Middlesex, \$748,102.09
Bristol, \$400,119.88	Nantucket, \$271.93
Dukes, \$34,291.77	Norfolk, \$239,050.23
Essex, \$919,323.18	Plymouth, \$669,443.27
Franklin, \$103,514.31	Suffolk, \$20,176.45
Hampden, \$462,113.77	Worcester, \$996,255.27
	Total, \$5,608,946.64

Details of the foregoing expenditures follow:—

*Barnstable County*.—Barnstable, \$67,618.42; Bourne, \$10,286.65; Brewster, \$3,753.63; Chatham, \$4,646.30; Dennis, \$2,645.30; Eastham, \$1,981.28; Falmouth, \$6,004.67; Harwich, \$3,512.36; Mashpee, \$3,721.98;



Orleans, \$1,831.39; Provincetown, \$3,625.50; Sandwich, \$8,897.24; Truro, \$4,339.26; Wellfleet, \$2,178.69; Yarmouth, \$3,065.70.

*Berkshire County.*—Adams, \$17,032.48; Becket, \$75,614.66; Cheshire, \$9,566.07; Clarksburg, \$3,960.67; Dalton, \$3,196.37; Egremont, \$113,776.04; Florida, \$11,502.43; Great Barrington, \$15,821.65; Hancock, \$39,921.39; Hinsdale, \$4,070.51; Lanesboro, \$10,133.78; Lee, \$22,413.56; Lenox, \$105,493.77; New Ashford, \$1,520.65; New Marlborough, \$153.31; North Adams, \$10,994.98; Otis, \$3,938.70; Pittsfield, \$167,859.98; Richmond, \$1,170.83; Sandisfield, \$5,327.31; Savoy, \$1,920.02; Sheffield, \$18,997.72; Stockbridge, \$3,249.31; Washington, \$3,820.42; West Stockbridge, \$191.59; Williamstown, \$14,532.20; Windsor, \$4,267.11.

*Bristol County.*—Acushnet, \$2,169.42; Attleboro, \$2,649.68; Berkley, \$3,124.36; Dartmouth, \$4,132.02; Dighton, \$44,587.65; Easton, \$16,682.51; Fairhaven, \$1,637.21; Fall River, \$4,810.63; Freetown, \$6,268.51; Mansfield, \$3,368.70; New Bedford, \$94,316.36; Norton, \$25,072.67; North Attleborough, \$4,406.38; Raynham, \$13,920.80; Rehoboth, \$9,575.31; Seekonk, \$41,908.71; Somerset, \$37,162.25; Swansea, \$32,610.48; Taunton, \$39,076.85; Westport, \$12,639.38.

*Dukes County.*—Chilmark, \$5,234.49; Edgartown, \$14,346.63; Gay Head, \$860.25; Oak Bluffs, \$3,833.14; Tisbury, \$860.78; West Tisbury, \$9,156.48.

*Essex County.*—Amesbury, \$8,186.61; Andover, \$194,361.98; Beverly, \$53,580.79; Danvers, \$7,947.69; Essex, \$4,316.25; Gloucester, \$15,229.29; Groveland, \$619.22; Hamilton, \$6,646.73; Haverhill, \$16,552.40; Ipswich, \$70,992.68; Lawrence, \$8,614.58; Lynn, \$2,868.80; Lynnfield, \$14,244.81; Merrimac, \$4,176.99; Methuen, \$47,753.56; Middleton, \$3,098.07; Newbury, \$28,770.42; Newburyport, \$933.87; North Andover, \$20,651.74; Peabody, \$9,352.15; Rockport, \$1,348.91; Rowley, \$38,719.50; Salem, \$109,691.58; Salisbury, \$81,305.77; Saugus, \$39,040.01; Swampscott, \$48,217.64; Topsfield, \$5,470.57; Wenham, \$17,000.27; West Newbury, \$59,630.30.

*Franklin County.*—Ashfield, \$6,087.11; Bernardston, \$3,265.97; Buckland, \$2,302.19; Charlemont, \$23,308.53; Colrain, \$1,015.48; Conway, \$5,493.45; Deerfield, \$8,463.43; Erving, \$9,045.37; Gill, \$165.57; Greenfield, \$12,122.90; Montague, \$9,220.54; Northfield, \$4,725.72; Orange, \$3,765.57; Shelburne, \$8,643.17; Sunderland, \$3,639.44; Whately, \$2,249.87.

*Hampden County.*—Agawam, \$17,806.12; Blandford, \$4,901.25; Brimfield, \$4,657.10; Chester, \$18,775.43; Chicopee, \$3,647.91; East Longmeadow, \$749.53; Holland, \$22.59; Holyoke, \$2,926.64; Monson, \$12,954.16; Palmer, \$23,220.08; Russell, \$22,765.59; Southwick, \$4,493.48; Tolland, \$144.76; Wales, \$1,897.60; Westfield, \$324,544.84; West Springfield, \$14,567.58; Wilbraham, \$4,039.11.

*Hampshire County.*—Amherst, \$4,828.18; Belchertown, \$17,675.82; Cummington, \$12,258.65; Easthampton, \$2,245.94; Goshen, \$7,315.25; Granby, \$91,041.22; Hadley, \$2,914.13; Hatfield, \$12,813.82; Huntington, \$21,517.33; Northampton, \$6,353.83; Southampton, \$8,896.18; South Hadley, \$15,332.17; Ware, \$9,396.88; Williamsburg, \$4,967.48; Worthington, \$171.73.

*Middlesex County.*—Acton, \$8,353.07; Arlington, \$3,658.66; Ashby, \$50,685.74; Ashland, \$2,932.92; Ayer, \$2,045.22; Bedford, \$12,679.56; Billerica, \$88,031.68; Boxboro, \$2,204.50; Burlington, \$5,915.81; Chelmsford, \$33,178.83; Concord, \$6,129.67; Dracut, \$10,444.53; Framingham, \$12,045.83; Groton, \$28,259.03; Holliston, \$6,187.00; Hudson, \$1,709.90; Lexington, \$14,955.31; Lincoln, \$3,941.07; Littleton, \$5,077.14; Lowell, \$6,558.76; Malden, \$15.97; Marlboro, \$74,139.78; Medford, \$4,662.10; Melrose, \$368.89; Natick, \$2,850.12; Newton, \$863.41; North Reading, \$50,968.60; Pepperell, \$19,746.08; Reading, \$48,104.01; Shirley, \$5,071.19; Somerville, \$1,754.03; Stoneham, \$29,309.12; Sudbury, \$22,890.26; Tewksbury, \$13,039.50; Townsend, \$53,401.66; Tyngsboro, \$16,788.28; Waltham,



\$35,158.68; Watertown, \$512.21; Wayland, \$7,945.01; Westford, \$4,547.58; Weston, \$28,973.64; Wilmington, \$8,662.80; Winchester, \$2,545.00; Woburn, \$10,789.94.

*Nantucket County.*—Nantucket, \$271.93.

*Norfolk County.*—Avon, \$2,048.27; Bellingham, \$5,758.68; Braintree, \$18,273.97; Canton, \$7,981.05; Cohasset, \$2,022.36; Dedham, \$2,265.34; Dover, \$1,054.41; Foxboro, \$7,405.72; Franklin, \$1,166.84; Holbrook, \$25,904.59; Milton, \$9,815.14; Needham, \$975.10; Norfolk, \$883.58; Norwood, \$5,144.47; Plainville, \$8,203.07; Quincy, \$18,013.07; Randolph, \$44,606.56; Sharon, \$714.14; Stoughton, \$3,330.61; Walpole, \$9,519.57; Wellesley, \$784.48; Westwood, \$3,395.94; Weymouth, \$48,326.12; Wrentham, \$11,457.15.

*Plymouth County.*—Abington, \$53,915.26; Bridgewater, \$2,351.33; Brockton, \$7,978.14; Duxbury, \$19,636.81; East Bridgewater, \$1,249.61; Hanover, \$2,716.49; Hingham, \$111,801.47; Hull, \$319.94; Kingston, \$2,086.47; Lakeville, \$7,487.09; Marion, \$6,151.54; Marshfield, \$6,000.34; Mattapoisett, \$4,008.50; Middleboro, \$20,769.02; Norwell, \$100,171.25; Pembroke, \$25,587.50; Plymouth, \$8,138.62; Rochester, \$15,590.29; Rockland, \$725.57; Scituate, \$2,592.52; Wareham, \$195,124.19; West Bridgewater, \$967.90; Whitman, \$74,073.42.

*Suffolk County.*—Boston, \$8,089.72; Chelsea, \$780.60; Revere, \$11,306.13.

*Worcester County.*—Ashburnham, \$6,617.68; Athol, \$2,547.96; Auburn, \$31,448.28; Barre, \$4,310.32; Blackstone, \$13,862.24; Brookfield, \$1,149.62; Charlton, \$103,451.99; Douglas, \$488.52; Dudley, \$2,479.64; East Brookfield, \$1,953.14; Fitchburg, \$5,768.51; Gardner, \$5,746.16; Grafton, \$7,104.30; Hardwick, \$459.10; Harvard, \$2,911.92; Holden, \$6,246.09; Hopedale, \$920.82; Lancaster, \$261.34; Leicester, \$4,792.75; Leominster, \$2,850.95; Lunenburg, \$5,847.94; Mendon, \$4,072.83; Milford, \$2,564.23; Millbury, \$1,201.65; Millville, \$1,324.13; New Braintree, \$122.00; North Brookfield, \$3,030.24; Northboro, \$174,347.60; Northbridge, \$6,708.13; Oakham, \$12,768.25; Oxford, \$74,957.53; Paxton, \$3,330.69; Petersham, \$4,360.69; Phillipston, \$1,217.87; Princeton, \$4,701.76; Rutland, \$12,041.32; Shrewsbury, \$299,990.19; Southboro, \$21,483.26; Southbridge, \$20,743.18; Spencer, \$1,349.66; Sterling, \$5,197.55; Sturbridge, \$37,537.47; Sutton, \$3,326.56; Templeton, \$5,846.21; Upton, \$2,826.68; Uxbridge, \$13,154.79; Warren, \$4,866.38; Webster, \$1,168.52; West Boylston, \$2,648.17; West Brookfield, \$1,474.37; Westboro, \$18,946.55; Westminster, \$5,575.80; Winchendon, \$5,541.90; Worcester, \$26,609.84.

Miscellaneous expenditures are as follows:—

Truck repairs . . . . .	\$18,116 14	
Truck operation . . . . .	3,788 20	
Truck plow repairs . . . . .	21,614 15	
Tractor repairs . . . . .	16,715 51	
Tractor operation . . . . .	3,100 57	
Tractor plow repairs . . . . .	17,778 38	
Snow fence . . . . .	902 40	
Expenditures under towns . . . . .	347,918 18	
		\$429,933 53
Warning signs . . . . .	32,712 11	
Direction signs . . . . .	70,425 39	
Control signals . . . . .	60,087 29	
Traffic survey . . . . .	23,129 83	
Traffic accidents . . . . .	17 80	
Traffic permits . . . . .	2,771 62	
		189,144 04
Somerset Bridge . . . . .	13,225 34	
Newburyport Bridge . . . . .	6,839 12	
Fairhaven—New Bedford Bridge . . . . .	18,176 50	
		38,240 96



P. D. 54	31
Detour Bulletins	3,868 70
Construction of D St. Garage	26,492 70
Heating Plant at D St. Garage	1,880 20

Total of miscellaneous expenditures	\$689,560 13
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#### REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The cooperation of the Department with officers of cities, towns and counties, in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,530 miles of highways on the principal routes of travel, 1,393 miles of which are State highways and 137 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$429,933.52, which includes the cost of maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces.

#### UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth was placed in the Department of Public Works by chapter 357, of the Acts of 1928. The Department is thereby enabled to insure that all traffic control signals to be erected by the municipalities shall conform to standards adopted by the Department and cooperates with the cities and towns for the purpose of properly locating and operating such signals. All through ways desired by the municipalities must first be approved by the Department before such may become effective.

In order to secure uniformity in the matter of traffic control, the Department has issued three bulletins. These bulletins are as follows: Bulletin No. 1, "Recommendations and Requirements relating to Through Ways"; Bulletin No. 2, "A Standard Code for Traffic Signal Installation and Operation"; Bulletin No. 3, "A Standard Code for Traffic Signs, Warning Beacons and Islands." These present the standards which are required to be met by the cities and towns of the State for the installation and maintenance of traffic signs, signals and devices for the control of traffic.

#### TRAFFIC CONTROL SIGNALS AND REGULATIONS APPROVED

During the year the Department has issued permits to cities and towns for the following traffic control features:

	In 1932	Previously	Total to date
Traffic Signals, at intersections	69	676	745
Traffic Beacons (11 cancellations)	47	178	214
Through Ways (4 cancellations)	9	101	106
Traffic Signs and Markings (1 cancellation)	38	129	166
Traffic Rules and Regulations	80	188	268
Isolated Stop Signs	67	38	105



## DIRECTION SIGNS, ROUTE MARKERS, WARNING SIGNS AND TRAFFIC CONTROL SIGNALS ERECTED BY DEPARTMENT

The Department has given a great deal of study to the determination of the important routes of travel for the purpose of marking and furnishing direction signs as aids for traveling. Ninety-five automobile routes have been selected, including practically every city, town and village in the Commonwealth, having a total mileage of 3,200 miles. Included in this designation are the so-called United States routes, the numbering of which conforms to the numbers approved by the United States Bureau of Public Roads. The other routes selected are numbered according to the State's designation.

The placing of route numbers and direction signs at points of advantage on these designated highways is done by the Department both on State highways and on city and town ways, permission for the latter being obtained from the local authorities. Warning signs and traffic control signals which are erected and maintained by the Department are placed only on State highways.

During the year the foundation was laid for the numbering of the Worcester Turnpike and adjacent routes. Several of the Massachusetts automobile routes which crossed into neighboring states were changed and it was possible through the continued cooperation of the bordering state highway officials to have these additional routes cross the State line without changing the route numbers.

In addition to the great number of existing signs already used to warn or direct the motorist, the Department, in an effort to instruct drivers further and to insure safety has erected many new signs. Signs reading "Do Not Pass on Hill", "Do Not Pass on Curve" and "Keep Single Line" have been erected at strategic points along the highways. With the opening of the new trunk highway, where speed averaged approximately 40 miles per hour it was necessary to develop a sign which could be read at a greater distance than the large directional signs. Legends, therefore, with letters 12 inches high were painted on large billboard signs. In one case on the Worcester Turnpike a 4' x 12' billboard sign illuminated at night by two 100-watt bulbs and controlled by a time clock was erected.

At locations where the hazard was particularly great and where traffic signals could not be used, neon tubes forming the legend were erected. This type of sign is especially advantageous on foggy nights since it has greater penetrating power than any light or reflector unit.

The Department installed thirty additional traffic control signals during the year, bringing the total of such signals up to sixty-two. Since July 1st of this year the Department has found it more economical and has succeeded in reducing the maintenance charges by installing its own traffic signals.

In the year just passed the Department designated twenty-four additional miles of State highway as Through Ways. The total now approximates fifty miles.

The manufacture of many of these signs and the erection and maintenance of all of these signs and signals are part of the highway maintenance activities.

## TRAFFIC ACCIDENT STUDIES

Studies have been continued to ascertain the attendant circumstances and physical characteristics at points on the highways where accidents have occurred, in order to measure the effectiveness of control or lack of control of traffic movements at such points. Such information included the type of district, layout of the roadway, means of traffic control, atmospheric conditions, light conditions, condition of roadway, physical obstructions in the roadway and obstructions to view. This information is required in reports submitted to the Registry of Motor Vehicles and is supplied to the traffic engineering section for study.



## ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-six years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

The Department has organized and trained a group of men under competent supervision to have charge of this work, not only for the removal and trimming of trees, brush and undesirable growth, but also for the selection and planting of new growth suitable for the locations. The removal of trees and brush that may obstruct vision at curves, intersections or other points on the highway is done to insure that operating conditions shall be as safe as possible and unnecessary growth is cleared cut in order to afford attractive vistas at many scenic locations. For the protection of the roadside trees the Department has maintained a corps of inspectors to supervise the trimming that may be necessary for the construction of light and power transmission lines. In connection with this work a Nursery is maintained at Sudbury where most of the trees and shrubs for use on the highways of Massachusetts are grown and made available for use by the Department. Strict supervision of the tree trimming by the Public Service Corporations is maintained, thus preserving the natural beauty of our roadsides as much as possible and still allowing the Public Service Corporations to extend their services.

During the year 1,440 trees were planted, making a total for the past twenty-eight years of 63,664 trees planted; and this year 4,429 shrubs have been planted throughout the State; in addition 6,731 small pines have been planted on bare slopes and ragged cuts.

Approximately 2,000 men were given employment for a period of four months. These men were employed on the various maintenance activities of the Department; many of them working on roadside work and improvement, such as cutting undesirable growth, trimming and removing trees to improve visibility at hazardous locations, grading and seeding unsightly slopes and other miscellaneous work with a view to improving the aesthetic value of our roadsides.

The trees and shrubs formerly contained in nurseries in various sections of the State on rented or borrowed land have been transferred to the newly acquired Nursery at Sudbury and, although this Nursery has already proven its value to the department, it will be several years before the maximum use can be made of it.

## SIDEWALK CONSTRUCTION ON STATE HIGHWAYS

Under Chapter 439, Acts of 1931, the Department made use of many of the State's unemployed through the construction of sidewalks along State highways where a definite need had been established and the unemployment situation in that locality appeared to be acute. In each case where a sidewalk was constructed the Department cooperated with the cities and towns in the employment of the labor necessary by using only men recommended to them by the Welfare Boards or Officials of the towns and cities. In each case the town or city in which the sidewalk was constructed agreed with the Department to maintain the sidewalk after construction.

## FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to cooperation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act approved Nov. 9, 1921, may be found in the annual reports of this Department for the years 1920-1927, inc.



The following Federal aid allotments have thus far been made to Massachusetts:—

For fiscal year ending June 30, 1917	\$73,850 94
For fiscal year ending June 30, 1918	147,701 90
For fiscal year ending June 30, 1919	958,145 15
For fiscal year ending June 30, 1920	1,400,078 27
For fiscal year ending June 30, 1921	1,472,788 83
For fiscal year ending June 30, 1922	1,096,176 04
For fiscal year ending June 30, 1923	730,784 03
For fiscal year ending June 30, 1924	950,448 62
For fiscal year ending June 30, 1925	1,089,806 22
For fiscal year ending June 30, 1926	1,099,891 00
For fiscal year ending June 30, 1927	1,089,055 00
For fiscal year ending June 30, 1928	1,089,100 00
For fiscal year ending June 30, 1929	1,088,808 00
For fiscal year ending June 30, 1930	1,090,077 00
For fiscal year ending June 30, 1931	1,821,569 00
For fiscal year ending June 30, 1932	1,813,916 00
For fiscal year ending June 30, 1933	1,511,244 00

Total \$18,523,440 00

In addition to the above, an allotment from "Federal Emergency Advance Funds" amounting to \$1,141,460.00 was made in 1931 and an allotment from the Federal Emergency Relief and Construction Act amounting to \$1,716,612.00 was made in 1932.

The total amount received by Massachusetts from 1916 to November 30, 1932 is \$17,106,256.56\*.

Projects to the number of 21 have been prepared in addition to those shown in the report of the Department of Public Works for 1931. The total mileage included in the various Federal aid road projects in this state, from the commencement of work of this character to November 30, 1932, inclusive, is 940.843. The mileage in various counties is:—

Barnstable, 93.171 miles	Hampden, 52.998 miles
Berkshire, 119.213 miles	Hampshire, 48.987 miles
Bristol, 83.548 miles	Middlesex, 82.695 miles
Dukes, 3.117 miles	Norfolk, 81.370 miles
Essex, 73.863 miles	Plymouth, 99.959 miles
Franklin, 42.498 miles	Worcester, 159.424 miles

#### STATEMENT OF FEDERAL AID ROAD PROJECTS\* TO NOV. 30, 1932

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
1	Acushnet-Fairhaven	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover	2.708	19,480 36	19,480 36	Work completed.
R-2	Hanover	2.615	39,225 00	39,225 00	Work completed.
3	Malden-Melrose-Saugus	1.162	11,620 00	11,620 00	Work completed.
4	Danvers	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich	1.818	10,678 02	10,678 02	Work completed.
7	Cummington	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham	7.016	90,074 51	90,074 51	Work completed.
9	Saugus	3.122	65,472 27	65,472 27	Work completed.
10	Braintree	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich	2.173	21,851 50	21,851 50	Work completed.
E-12	Ipswich	2.081	16,000 00		Work underway.
13	Littleton-Groton	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg	2.797	55,940 00	55,940 00	Work completed.
19	Taunton	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock	3.637	72,483 32	72,483 32	Work completed.
E-21-A	Hancock-Pittsfield	2.773	14,000 00		Work underway.
E-21B	Hancock	1.098	11,000 00		Work underway.

\* Includes \$1,141,460.00 Federal Emergency Advance funds.  
All of these projects are now, or will be later, State highways.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
22	Greenfield-Bernardston	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk	2.756	19,527 75	19,527 75	Work completed.
R24	Seekonk	2.756	41,340 00	41,340 00	Work completed.
25	Billerica	0.578	38,389 77	38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1	5.134	102,680 00	102,680 00	Work completed.
	Section 2	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham	1.766	20,207 27	20,207 27	Work completed.
28	Lanesborough:				
	Section A	0.990	19,780 00	19,780 00	Work completed.
	Section B	2.690	53,800 00	53,800 00	Work completed.
29	Ware	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield	4.206	84,120 00	84,120 00	Work completed.
31	Danvers-Peabody	1.107	22,140 00	22,140 00	Work completed.
32	Huntington	3.078	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A	2.182	43,640 00	43,640 00	Work completed.
	Section B	1.624	25,847 25	25,847 25	Work completed.
34	Dudley	1.359	27,180 00	27,180 00	Work completed.
35	Haverhill-Methuen	4.544	90,880 00	90,880 00	Work completed.
36	Eastham-Wellfleet-Provincetown:				
	Section A	10.690	91,347 85	91,347 85	Work completed.
	Section B	6.548	75,935 60	75,935 60	Work completed.
	Section C	8.043	86,130 51	86,130 51	Work completed.
37	Egremont	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford-Lanesborough:				
	Section A	0.020	9,123 64	9,123 64	Work completed.
	Section B	3.323	65,980 00	65,980 00	Work completed.
	Section C	4.590	68,850 00	68,850 00	Work completed.
40	East Brookfield	1.011	20,220 00	20,220 00	Work completed.
41	Ashby	1.250	22,141 03	22,141 03	Work completed.
42	Washington	2.291	45,820 00	45,820 00	Work completed.
43	Leicester	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A	1.494	29,880 00	29,880 00	Work completed.
	Section B	1.479	50,183 37	50,183 37	Work completed.
	Section C	3.780	82,915 42	82,915 42	Work completed.
	Section D	3.022	54,874 60	54,874 60	Work completed.
45	Palmer:				
	Sections A and C	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A	1.672	33,440 00	33,440 00	Work completed.
47	Barre-Oakham	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A	1.959	39,180 00	39,180 00	Work completed.
	Section B	2.504	50,080 00	50,080 00	Work completed.
52	Oxford	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West Brookfield:				
	Section A	0.890	17,800 00	17,800 00	Work completed.
	Section B	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A	0.829	16,580 00	16,580 00	Work completed.
	Section B	2.691	53,820 00	53,820 00	Work completed.
55	Quincy	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn	3.042	59,131 31	59,131 31	Work completed.
58	Littleton	1.345	26,900 00	26,900 00	Work completed.
59	Egremont	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A	3.009	60,180 00	60,180 00	Work completed.
	Section B	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich	4.489	89,780 00	89,780 00	Work completed.
64	Norwood	1.065	21,300 00	21,300 00	Work completed.
65	North Adams	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill	2.657	53,049 24	53,049 24	Work completed.
70	Palmer	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham	1.846	36,940 00	36,940 00	Work completed.
72	Walpole	3.078	61,560 00	61,560 00	Work completed.
73	Southwick	6.879	111,757 95	111,757 95	Work completed.
74	Becket	0.156	13,095 66	13,095 66	Work completed.
R74	Becket	0.189	10,290 54	10,290 54	Work completed.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac	1.020	20,397 73	20,397 73	Work completed.
78	Burlington	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington	2.991	59,820 00	59,820 00	Work completed.
79B	Great Barrington	0.028	8,522 99	8,522 99	Work completed.
80	Lee:				
	Section A	0.909	18,180 00	18,180 00	Work completed.
	Section B	0.283	4,245 00	4,245 00	Work completed.



STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
83	Pembroke	2.121	31,815 00	31,815 00	Work completed.
84	Sterling-West Boylston	3.491	51,974 04	51,974 04	Work completed.
85	Dalton-(Hinsdale Road):				
	Section A	1.033	20,660 00	20,660 00	Work completed.
	Section B	0.066	7,120 50	7,120 50	Work completed.
86	Gay Head	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A	1.056	21,120 00	21,120 00	Work completed.
	Section B	0.038	5,429 50	5,429 50	Work completed.
88	Erving	4.537	67,485 00	67,485 00	Work completed.
89	Easton:				
	Sections A and B	3.540	70,800 00	70,800 00	Work completed.
	Section C	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-East Brookfield	1.227	25,324 95	25,324 95	Work completed.
91	Lowell	0.977	19,537 87	19,537 87	Work completed.
93	Wilbraham	0.208	67,506 06	67,506 06	Work completed.
94	Otis-Sandisfield	7.565	122,931 25	122,931 25	Work completed.
95	Westfield	0.148	12,677 08	12,677 08	Work completed.
R95	Westfield	0.148	46,830 07	27,787 58	Work completed.
96	Rochester-Wareham	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield	3.052	61,133 85	61,133 85	Work completed.
99	Gloucester	1.191	19,353 75	19,353 75	Work completed.
100	Rutland	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale	0.297	4,455 00	4,455 00	Work completed.
101B	Hinsdale	0.858	24,116 51	24,116 51	Work completed.
102A	Plainville-Wrentham	3.254	48,810 00	48,410 00	Work completed.
103	Adams	0.568	9,230 00	9,230 00	Work completed.
104	Milton	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth	1.438	28,760 00	28,760 00	Work completed.
106	Bourne	0.522	35,002 00	35,002 00	Work completed.
R106	Bourne-Falmouth	6.458	66,412 31		Work underway.
107	Southampton	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater	0.109	24,580 87	24,580 87	Work completed.
111	Braintree	0.371	7,200 00	7,200 00	Work completed.
112	No. Attleborough-Attleborough	3.278	65,560 00	65,560 00	Work completed.
113	Swansea	0.692	11,245 00	11,245 00	Work completed.
113B	Swansea-Somerset	3.503	64,439 74	64,439 74	Work completed.
114	Lenox	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford	1.377	27,540 00	27,540 00	Work completed.
117B	Chelmsford-Tyngsboro	4.625	89,713 81	89,713 81	Work completed.
118A	Brookfield	0.620	12,400 00	12,400 00	Work completed.
118B	Brookfield	0.251	3,765 00	3,765 00	Work completed.
119A	Essex	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville	4.789	71,835 00	71,835 00	Work completed.
120B	Berkeley	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkeley	2.758	41,370 00	41,370 00	Work completed.
120D	Taunton	0.862	12,930 00	12,930 00	Work completed.
121A	Abington	0.947	17,887 34	17,887 34	Work completed.
121B	Bridgewater	0.113	16,568 31	16,568 31	Work completed.
121C	Weymouth	2.720	40,800 00	40,800 00	Work completed.
121D	E. Bridgewater-Whitman	2.000	30,000 00	30,000 00	Work completed.
121E	Abington	1.088	14,770 42	14,770 42	Work completed.
122A	Barnstable	0.066	18,711 51	18,711 51	Work completed.
122B	Barnstable-Mashpee	2.482	36,349 09	36,349 09	Work completed.
122C	Falmouth-Mashpee	8.137	114,307 02	114,307 02	Work completed.
122D	Barnstable	5.643	44,860 06	44,860 06	Work completed.
122E	Barnstable	1.621	26,313 81		Work completed.
E-122F	Barnstable-Yarmouth	2.395	4,855 78		Work underway.
123A	Southampton	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland	0.189	30,296 68	30,296 68	Work completed.
124B	Marlborough	1.626	24,390 00	24,390 00	Work completed.
124C	Weston	1.004	15,060 00	15,060 00	Work completed.
125A	Wareham	3.086	68,316 11	68,316 11	Work completed.
125B	Wareham	2.761	41,415 00	41,415 00	Work completed.
127A	Holyoke	4.136	62,040 00	62,040 00	Work completed.
127B	Easthampton-Northampton	1.762	74,258 69	74,258 69	Work completed.
128A	Hinsdale	0.066	8,598 63	8,598 63	Work completed.
128B	Hinsdale	0.952	14,280 00	14,280 00	Work completed.
129A	Dighton-Somerset	3.465	51,975 00	51,975 00	Work completed.
129B	Somerset	4.340	65,511 29	65,511 29	Work completed.
130A	Auburn-Oxford	4.208	63,120 00	63,120 00	Work completed.
131A	Wilbraham	0.530	7,950 00	7,950 00	Work completed.
131B	Wilbraham	1.012	15,180 00	15,180 00	Work completed.
132A	Duxbury-Kingston	2.123	31,845 00	31,845 00	Work completed.
133A	North Andover	0.615	9,225 00	9,225 00	Work completed.
133B	North Andover	0.771	11,565 00	11,565 00	Work completed.
133C	North Andover	2.670	35,085 00	35,085 00	Work completed.
134A	Barre	1.217	18,255 00	18,255 00	Work completed.
134B	Barre	1.261	18,915 00	18,915 00	Work completed.
134C	Barre	1.617	24,255 00	24,255 00	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
E-134D	Oakham-Rutland	3.493	20,000 00		Work underway.
135A	Russell	0.557	13,919 60	13,919 60	Work completed.
135B	Westfield-Russell	3.607	54,075 00	54,075 00	Work completed.
135C	Russell	3.291	53,059 55	53,059 55	Work completed.
135D	Russell-Huntington	3.670	55,050 00	55,050 00	Work completed.
136A	Agawam	1.331	19,965 00	19,965 00	Work completed.
136B	Agawam	1.515	22,725 00	22,725 00	Work completed.
136C	Agawam	1.000	15,000 00	15,000 00	Work completed.
137A	Sheffield	0.170	22,710 05	22,710 05	Work completed.
137C	Sheffield	1.532	22,980 00	22,980 00	Work completed.
138A	Chester	0.097	10,818 36	10,818 36	Work completed.
138B	Chester	4.250	92,391 53	92,391 53	Work completed.
138C	Becket	2.742	64,963 68	64,963 68	Work completed.
139A	Brimfield	0.103	6,075 05	6,075 05	Work completed.
139B	Brimfield	4.778	68,916 18	68,916 18	Work completed.
140A	Lenox-Lee	3.519	52,785 00	52,785 00	Work completed.
140B	Lee	0.057	26,620 13	26,620 13	Work completed.
141A	Williamsburg	0.211	8,880 65	8,880 65	Work completed.
141B	Goshen-Williamsburg	5.042	93,547 40	93,547 40	Work completed.
141C	Northampton-Williamsburg	4.146	62,190 00	62,190 00	Work completed.
142A	Fitchburg-Westminster	3.960	69,171 34	69,171 34	Work completed.
142B	Gardner-Westminster	3.699	52,316 73	52,316 73	Work completed.
142C	Gardner-Templeton	4.174	62,610 00	62,610 00	Work completed.
143	Fairhaven-Mattapoisett	3.245	52,079 86	52,079 86	Work completed.
144A	Canton-Stoughton	4.306	64,436 20	64,436 20	Work completed.
145A	Ashland-Holliston	3.330	34,645 01	34,645 01	Work completed.
146A	Paxton	1.783	26,745 00	26,745 00	Work completed.
146B	Paxton-Worcester	4.930	73,950 00	73,950 00	Work completed.
147A	Lenox-Pittsfield	2.349	35,235 00	35,235 00	Work completed.
148A	Raynham	1.657	24,855 00	24,855 00	Work completed.
148B	Raynham-Taunton	2.861	42,915 00	42,915 00	Work completed.
149A	Middleborough	5.586	83,790 00	83,790 00	Work completed.
149B	Middleborough	0.831	12,465 00	12,465 00	Work completed.
150A	Littleton-Westford	1.985	29,775 00	29,775 00	Work completed.
150B	Westford	2.660	39,900 00	39,900 00	Work completed.
151A&B	Swansea-Somerset	0.464	89,138 06	89,138 06	Work completed.
152A	Dartmouth	1.401	21,015 00	21,015 00	Work completed.
152B	Dartmouth	2.858	42,870 00	42,870 00	Work completed.
152C	Westport	4.634	69,510 00	69,510 00	Work completed.
153A	Southampton-Easthampton	1.410	21,150 00	21,150 00	Work completed.
154A	Sturbridge	2.503	37,545 00	37,545 00	Work completed.
155A	West Springfield	0.549	8,235 00	8,235 00	Work completed.
155B	Westfield-W. Springfield	2.348	134,395 92	51,745 58	Work completed.
156A	Orange	1.058	15,870 00	15,870 00	Work completed.
156B	Orange	2.607	39,105 00	39,105 00	Work completed.
156C	Athol-Orange	1.544	24,606 61	24,606 61	Work completed.
157A	Sandisfield-Tolland	0.644	34,803 50	34,803 50	Work completed.
R157A	Sandisfield-Tolland	0.644	5,107 62	5,107 62	Work completed.
157B	Sandisfield	0.473	32,037 28	32,037 28	Work completed.
157C	Sandisfield-Tolland	3.038	45,570 00	45,570 00	Work completed.
157D	Sandisfield	0.219	13,641 74	13,641 74	Work completed.
158A	Dalton	0.430	22,087 67	22,087 67	Work completed.
159A	Seekonk-Rehoboth-Swansea	1.899	49,876 52	49,876 52	Work completed.
159B	Seekonk	2.251	33,765 00	33,765 00	Work completed.
159C	Swansea	2.767	41,505 00	41,505 00	Work completed.
160A	Lenox-Lee-Stockbridge	5.453	81,795 00	81,795 00	Work completed.
161A	Brockton-W. Bridgewater	3.823	57,345 00	57,345 00	Work completed.
161B	Avon-Brockton	2.201	33,015 00	33,015 00	Work completed.
162A	Holliston	3.315	49,725 00	49,725 00	Work completed.
162B	Milford	1.790	26,850 00	26,850 00	Work completed.
163A	Amherst	0.052	3,787 09	3,787 09	Work completed.
163B	Amherst	2.100	31,500 00	31,500 00	Work completed.
164A	Westminster-Winchendon	0.750	42,931 27	42,931 27	Work completed.
164B	Westminster-Ashburnham	3.607	54,105 00	54,105 00	Work completed.
164C	Ashburnham	3.776	56,640 00	56,640 00	Work completed.
164D	Winchendon	2.826	42,390 00	42,390 00	Work completed.
165A	Winchendon	2.460	36,900 00	36,900 00	Work completed.
166	Becket-Otis	6.043	99,077 00	99,077 00	Work completed.
168A	Deerfield	3.043	45,645 00	45,645 00	Work completed.
169A	Merrimac-Amesbury	3.397	50,955 00	50,955 00	Work completed.
E170A	Cohasset-Hingham	3.151	34,273 54		Work underway.
171A	Chelmsford	1.536	23,040 00	23,040 00	Work completed.
172A	Leominster-Sterling	2.718	40,770 00	40,770 00	Work completed.
173A	Cheshire	4.377	74,965 81	74,965 81	Work completed.
173B	Lanesboro	1.742	26,130 00	26,130 00	Work completed.
174A	Marshfield	4.533	67,995 00	67,995 00	Work completed.
175A	Sandwich	0.217	22,181 26	22,181 26	Work completed.
175B	Orleans	1.904	23,601 55	23,601 55	Work completed.
175C	Barnstable	0.927	13,905 00	13,905 00	Work completed.
175D	Sandwich	2.364	35,460 00	35,460 00	Work completed.
175E	Brewster-Orleans	7.858	106,314 45	106,314 45	Work completed.
176A	Plymouth	5.032	70,543 35	70,543 35	Work completed.
176B	Plymouth-Bourne	2.948	44,220 00	44,220 00	Work completed.
177A	Chatham	3.964	48,588 18	48,588 18	Work completed.



STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
177B	Orleans	1.802	25,838 02	25,838 02	Work completed.
177C	Dennis	3.219	38,734 30	38,734 30	Work completed.
178A	Chelmsford	1.262	18,930 00	18,930 00	Work completed.
179A	Falmouth	3.394	50,910 00	50,910 00	Work completed.
180A	Franklin-Wrentham	3.125	46,875 00	46,875 00	Work completed.
180B	Bellingham-Franklin	3.889	58,335 00	58,335 00	Work completed.
181A	Florida-North Adams	2.818	42,270 00	42,270 00	Work completed.
181B	Florida	2.736	41,040 00	41,040 00	Work completed.
181C	North Adams-Clarksburg	3.362	50,430 00	50,430 00	Work completed.
181D	Florida-Savoy	3.702	55,530 00	55,530 00	Work completed.
182A	Lunenburg	1.312	19,680 00	19,680 00	Work completed.
183A	Amesbury-Salisbury	1.922	28,830 00	28,830 00	Work completed.
183B	Amesbury	1.329	45,345 32	45,345 32	Work completed.
184A	Charlton	2.848	42,720 00	42,720 00	Work completed.
184B	Charlton-Sturbridge	5.623	84,345 00	84,345 00	Work completed.
184D	Oxford	0.906	22,650 00		Work completed.
185A	Buckland	1.245	18,675 00	18,675 00	Work completed.
185B	Charlemont	2.433	35,640 00	35,640 00	Work completed.
185C	Charlemont	0.421	34,244 36	34,244 36	Work completed.
186	Salisbury	2.405	36,075 00	36,075 00	Work completed.
187A	Bellingham	1.225	18,375 00	18,375 00	Work completed.
187B	Hopedale-Mendon-Bellingham	2.502	34,650 00	34,650 00	Work completed.
188A	Townsend	3.813	57,195 00	57,195 00	Work completed.
188B	Pepperell-Groton	3.368	50,520 00	50,520 00	Work completed.
188C	Groton-Pepperell	1.627	54,509 15	9,516 49	Work completed.
188D	Townsend	0.061	17,849 72	12,635 50	Work completed.
188E	Townsend	0.009	2,400 58		Work completed.
189A	Marion-Wareham	0.582	78,792 57	78,792 57	Work completed.
189B	Mattapoisett	1.804	27,060 00	27,060 00	Work completed.
189C	Marion	4.554	68,310 00	68,310 00	Work completed.
189D	Wareham	1.344	20,160 00	20,160 00	Work completed.
190A	Becket	2.254	33,810 00	33,810 00	Work completed.
190B	Hinsdale	0.307	45,608 50	25,664 75	Work completed.
191A	Falmouth	5.896	81,094 43	81,094 43	Work completed.
191B	Falmouth	1.752	26,280 00	26,280 00	Work completed.
192A	Groveland	1.643	24,645 00	24,645 00	Work completed.
192B	Newburyport	1.745	26,175 00	26,175 00	Work completed.
193A	Hadley	1.985	25,821 78	25,821 78	Work completed.
193B	Hadley	2.662	26,852 35	26,852 35	Work completed.
194A	Athol-Phillipston-Templeton	4.738	71,070 00	71,070 00	Work completed.
195A	Mansfield-Norton	0.960	17,862 40	17,862 40	Work completed.
195B	Mansfield-Norton	2.617	39,255 00	39,255 00	Work completed.
195C	Foxborough-Wrentham	0.927	23,175 00	19,073 98	Work completed.
196A	Millbury-Grafton	4.440	66,600 00	66,600 00	Work completed.
197	Plymouth	6.543	96,288 19	96,288 19	Work completed.
198	Milford-Hopedale-Upton	4.418	66,270 00	66,270 00	Work completed.
199A	Newbury	0.303	127,124 34	127,124 34	Work completed.
199B	Newbury-Rowley	4.437	111,552 35	111,552 35	Work completed.
200A	Rehoboth	1.875	28,125 00	28,125 00	Work completed.
200B	Taunton-Dighton-Rehoboth	5.690	86,868 07	86,868 07	Work completed.
201	Wilbraham	1.530	22,950 00	22,950 00	Work completed.
202A	Hanover-Pembroke	2.601	44,462 11	44,462 11	Work completed.
202B	Duxbury-Kingston-Pembroke	6.164	92,460 00	92,460 00	Work completed.
203	Natick-Wellesley	2.066	30,990 00	30,990 00	Work completed.
204	Erving	3.214	48,210 00	48,210 00	Work completed.
205	Dalton	0.913	22,152 43	22,152 43	Work completed.
206A	Billerica	1.898	35,399 86	35,399 86	Work completed.
206B	Billerica	0.978	14,670 00	14,670 00	Work completed.
206C	Billerica-Chelmsford	2.874	48,356 46	30,679 86	Work completed.
207A	Bridgewater-Middleboro	10.474	173,628 65	173,628 65	Work completed.
208A	Weston	0.186	42,652 01	19,385 85	Work completed.
208B	Weston	1.224	18,360 00	16,655 12	Work completed.
209A	Milton-Quincy-Randolph	3.315	49,725 00		Work completed.
210A	Becket-Lee	7.192	107,880 00	87,320 68	Work completed.
210B	Becket	2.886	43,290 00	43,290 00	Work completed.
211A	Northborough-Shrewsbury-Southborough	11.272	444,715 17	241,627 87	Work completed.
211B	Framingham-Southborough	4.398	82,947 44	66,731 14	Work completed.
211C	Framingham-Natick	4.061	100,200 00	48,248 16	Work underway.
E211D	Wellesley	2.272	40,000 00		Work underway.
E211E	Wellesley	1.108	70,000 00		Work underway.
212	North Attleborough	2.123	46,890 51		Work completed.
213	Attleborough	1.455	58,131 53	58,131 53	Work completed.
214A	Tyngsborough	0.540	236,907 35	173,677 55	Work completed.
215A	Palmer-Monson	0.606	79,452 36	79,452 36	Work completed.
216A	Dedham	0.738	10,935 00	10,935 00	Work completed.
217	Chester-Huntington	3.781	61,090 38	61,090 38	Work completed.
218	Canton-Dedham-Westwood	3.947	202,012 06	129,297 55	Work completed.
219A	Marlborough-Northborough	5.109	87,411 93	82,268 29	Work completed.
219B	Northborough-Shrewsbury	2.578	64,073 71	38,010 58	Work underway.
220A	Foxborough-Plainville-Wrentham	5.722	85,830 00	85,830 00	Work completed.
221	Egremont	2.135	53,375 00	45,712 25	Work completed.
222	Deerfield-Greenfield	0.337	168,855 58	95,019 75	Work completed.
223A	Williamstown	1.789	44,725 00	32,794 29	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
224A	Andover-No. Reading-Reading	4.431	125,109 01	56,711 93	Work completed.
225A	Erving	1.425	89,590 80	23,837 41	Work completed.
225B	Gill-Greenfield	5.147	162,429 00	128,691 45	Work completed.
225C	Erving-Gill	0.017	236,449 23		Work underway.
226A	Auburn-Worcester	4.809	143,134 13	86,735 61	Work underway.
226B	Millbury-Worcester	2.125	219,350 35	102,055 25	Work underway.
226C	Shrewsbury-Worcester	3.015	89,151 11	69,128 91	Work underway.
227	Foxborough-Sharon-Wrentham	4.314	178,951 92	120,407 27	Work completed.
228A	Uxbridge	4.171	128,280 31	51,179 95	Work completed.
229A	Dedham-Westwood-Needham	3.448	100,412 55	79,752 13	Work underway.
229B	Needham-Wellesley	3.653	103,047 67	52,717 33	Work underway.
230A	Salisbury	2.184	43,990 79		Work completed.
231A	Sharon-Walpole-Norwood	5.458	143,527 10	120,004 77	Work completed.
231B	Dedham-Westwood-Norwood	3.566	168,318 57		Work underway.
232A	Littleton	0.420	44,811 22		Work completed.
233A	Lakeville-Middleborough	4.112	135,116 08	103,127 43	Work completed.
E235-A	Wellesley	1.360	35,000 00		Work underway.
E236	Lakeville-Middleborough-Taunton-Raynham	6.344	60,000 00		
238A	Granby	3.154	50,894 40	11,301 22	Work underway.
E238B	Belchertown	2.812	20,000 00		Work underway.
240A	Worcester-West Boylston	2.229	41,448 73		Work underway.
Total		940.843	\$18,434,259 37	\$15,964,796 56	

## STATEMENT OF FEDERAL EMERGENCY ADVANCE FUNDS

No.	TOWN OR CITY	Amount of Federal Aid Involved	Amount received	Remarks
122D	Barnstable	\$116,571 15	\$116,571 15	
124C	Weston	132,685 22	132,685 22	
188C	Groton-Pepperell	9,516 49	9,516 49	
199B	Newbury-Rowley	62,185 37	62,185 37	
208B	Weston	78,216 94	78,216 94	
219A	Marlborough-Northborough	329,743 37	329,743 37	
220A	Foxborough-Plainville-Wrentham	286,202 25	286,202 25	
224A	Andover-No. Reading-Reading	90,544 85	90,544 85	
225A	Erving	35,794 36	35,794 36	
Total		\$1,141,460 00	\$1,141,460 00	

## STATEMENT OF FEDERAL EMERGENCY RELIEF AND CONSTRUCTION ACT

E-12	Ipswich	43,121 59	Underway
E-21A	Hancock-Pittsfield	117,713 39	Underway
E-21B	Hancock	62,577 35	Underway
E-122F	Barnstable-Yarmouth	78,001 36	Underway
E-134D	Oakham-Rutland	87,991 78	Underway
E-170A	Cohasset-Hingham	255,600 00	Underway
E-211D	Wellesley	203,119 63	Underway
E-211E	Wellesley	312,873 09	Underway
E-235A	Wellesley	86,773 19	Underway
E-236	Lakeville-Middleborough-Taunton-Raynham	392,119 17	Underway
E-238B	Belchertown	59,214 08	Underway
Total obligated		\$1,699,104 63	
Not obligated		17,507 37	
Total apportionment		\$1,716,612 00	

## BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

## BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR

*Cities and Towns, Locality and Character of Structure*

- Alford — Green River Road over Green River; two 33-foot spans, reinforced concrete beam and slab.
- Ashland — Homer Avenue over Cold Spring Brook; one 17-foot span, reinforced concrete slab.
- Belchertown — Enfield Road over Jabish Brook; one 20-foot span, reinforced concrete slab.



- Belchertown — Parker Road over Jabish Brook; one 18-foot span, reinforced concrete slab.
- Charlton — Sturbridge Road over Cady Brook; one 12-foot span, reinforced concrete slab.
- Dartmouth — Pctomska Road over Little River; two 18-foot spans, reinforced concrete beam and slab; one 63-foot span, steel girder.
- Dedham — Providence Turnpike over Circumferential Highway; one 83-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Providence Turnpike over High Street; one 73-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Providence Turnpike over Williams Street; one 64-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Reinforced concrete mat and culvert at sites of High Street and Williams Street Bridges.
- Dedham — Retaining walls at High Street and Williams Street bridges.
- Dighton — Taunton Road at Taunton line over Three Mile River; one 42-foot span, reinforced concrete beam and slab.
- Edgartown — At Oak Bluffs line over Sengekontacket Pond; sixteen 15-foot spans, timber trestle.
- Framingham — Concord Street over Sudbury River; two 28-foot spans, reinforced concrete beam and slab.
- Granby — Belchertown Road over Forge Pond Brook; one 15-foot span, reinforced concrete slab.
- Granville — Main Road at Tolland line over Hubbard River; one 26-foot span, reinforced concrete beam and slab.
- Hingham — Cohasset Road over tracks of New York, New Haven and Hartford Railroad, one 57-foot span, steel stringers with reinforced concrete floor.
- Hingham — Cohasset Road over Weir River; one 17-foot span, reinforced concrete slab.
- Hinsdale — Fassell Road over branch of Housatonic River; one 20-foot span, reinforced concrete slab.
- Lee — West Park Street over Canal; one 23-foot span, reinforced concrete beam and slab.
- Lee — West Park Street over Housatonic River; two 60-foot spans, steel stringers with reinforced concrete floor.
- Middleborough — Cattle pass over Thompson Street; two 24-foot spans and one 40-foot span, reinforced concrete girder.
- Needham — Circumferential Highway under tracks of New York, New Haven and Hartford Railroad; one 75-foot span, steel girder.
- Needham — Highland Avenue over Circumferential Highway; one 63-foot span, concrete rigid frame.
- Newbury — Middle Street over Parker River; one 42-foot span, steel stringer.
- Newton — Retaining walls at Centre Street on Worcester Turnpike.
- Newton — Retaining walls at Quinobequin Road and Chestnut Street, on Worcester Turnpike.
- Newton — Retaining walls at Parker Street on Worcester Turnpike.
- Newton — Worcester Turnpike over Centre Street; one 93-foot span, three-hinged steel arch.
- Newton — Worcester Turnpike over Chestnut Street; one 50-foot span, reinforced concrete rigid frame.
- Newton — Worcester Turnpike over Quinobequin Road; one 51-foot span, reinforced concrete rigid frame.
- Newton — Worcester Turnpike over Sudbury Aqueduct; one 9-foot span, reinforced concrete saddle.
- Newton — Worcester Turnpike under Parker Street; two 30-foot spans, steel stringers with reinforced concrete floor.
- Pittsfield — State Highway over Phelps Brook; one 31-foot span, reinforced concrete beam and slab.

- Revere — Beach Street over tracks of Boston and Maine Railroad; two 35-foot spans, reinforced concrete beam and slab, one 62-foot span, steel girders.
- Savoy — Adams Road over Westfield River; one 24-foot span, reinforced concrete beam and slab.
- Savoy — Adams Road over Sturtevant Brook; one 24-foot span, reinforced concrete beam and slab.
- Wellesley — Worcester Turnpike over tracks of Boston and Albany Railroad, one 83-foot span, steel plate girder.
- Wellesley — Worcester Turnpike over Aqueduct at Station 11+91; one 6-foot span, reinforced concrete saddle.
- Wellesley — Worcester Turnpike over Weston Road; one 58-foot span, reinforced concrete rigid frame.
- Wellesley — Worcester Turnpike under Washington Street; two 75-foot spans, steel deck plate girders with reinforced concrete floor.
- Wellesley — Worcester Turnpike under Cedar Street; two 40-foot spans, steel stringers with reinforced concrete, concrete floor.
- Wellesley — Worcester Turnpike over Cliff Road; one 50-foot span, reinforced concrete rigid frame.
- Wellesley — Cliff Road over tracks of Boston & Albany Railroad; one 64-foot span, steel plate girder.
- Wellesley — Worcester Turnpike over Aqueduct at Station 147; one 6-foot span, reinforced concrete saddle.
- Wellesley — Worcester Turnpike over Rosemary Brook; one 12-foot span, reinforced concrete slab.
- Wellesley — Retaining walls at Washington Street bridge on Worcester Turnpike.
- Westfield — Main Street over Powder Mill Brook; twenty-two 18-foot spans and one 32-foot span, reinforced concrete pile trestle.
- Westfield — Main Street over Westfield River; two 50-foot spans, steel stringer and one 273-foot span through steel truss.
- Westwood — Providence Turnpike under tracks of New York, New Haven and Hartford Railroad; one 99-foot span, steel plate girder.
- Worthington — Huntington Road over Ward's Stream; one 8-foot span, reinforced concrete box culvert.

#### ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES MADE OR CONTRACTED FOR

- Billerica — At Wilmington line, Aqueduct bridge over Shawsheen River; extension to existing reinforced concrete arch, 21-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 94; extension to reinforced concrete beam and slab, 17-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 129; extension to reinforced concrete beam and slab, 20-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 17; alteration of bridge fence.
- Dalton — Main Street over Housatonic River; steel bridge repainted.
- Egremont — Under Mountain Road over Guilden Brook; extension to reinforced concrete beam and slab, 24-foot span.
- Greenfield — At Montague line, Montague City Bridge over Connecticut River; repairs to trusses and roof.
- Hingham — Bridge at Otis and Summer Streets; repairs to existing concrete beams.
- Lee — Center Street bridge over Housatonic River; repainting steel.
- Needham — Greendale Avenue over tracks of New York, New Haven and Hartford Railroad; one 32-foot span, reinforced concrete arch extension.
- Newton — Worcester Turnpike over Charles River; extensions to two existing stone faced concrete arches, one 14-foot span and one 50-foot span.



- Newton — Worcester Turnpike over East Branch of Charles River; extension to stone faced concrete arch, 20-foot span.
- North Adams — Greylock Bridge over Hoosic River; repainting steel.
- Oakham — Athol Road over Brook; extension to reinforced concrete arch, 10-foot span.
- Oakham — Athol Road over Mill Pond; extension to reinforced concrete beam and slab, 24-foot span.
- Oxford — Charleton Road over French River; extension to reinforced concrete arch, 16-foot span.
- Pittsfield — Lebanon Avenue over West Branch Housatonic River; extension to reinforced concrete beam and slab, 30-foot span.
- Pittsfield — Hancock Road over Shaker Brook; extension to reinforced concrete beam and slab, 18-foot span.
- Pittsfield — Woodleigh Avenue over Brook; extension to reinforced concrete culvert, 8-foot span.
- Sandisfield — At Tolland line, State Line bridge over Farmington River; repainting steel.
- Sandisfield — Hanging Mountain bridge over Farmington River; repainting steel.
- Sheffield — Blodgett's bridge over Housatonic River; repainting steel.
- Shrewsbury — Boston Post Road over Brook; extension to reinforced concrete slab, 13-foot span.
- Southwick — South Longyard Road over Great Brook; extension to reinforced concrete slab, 11-foot span.
- Southwick — South Longyard Road over canal; extension to reinforced concrete slab, 8-foot span.
- Tewksbury — Main Street over Shawsheen River; extension to 2-span reinforced concrete beam and slab, 20-foot spans.
- Tyngsborough — Tyngsborough Bridge over Merrimack River and tracks of Boston & Maine Railroad; reinforced concrete hood over railroad tracks.
- Wareham — State highway over Weweantic River; extension to reinforced concrete beam and slab, 25-foot span.
- Wareham — State highway over Parker Mills Pond; extension to reinforced concrete beam and slab, 30-foot span.
- Worthington — Huntington Road over Little River; extension to reinforced concrete beam and slab, 28-foot span.
- Worthington — Huntington Road over Ward's Stream; extension to reinforced concrete beam and slab, 20-foot span.

## CONTEMPLATED BRIDGES AND STRUCTURES

### *Plans, Studies or Estimates made*

#### *Cities and Towns, Locality and Character of Structure.*

- Arlington — Grade separation on Cambridge-Concord Highway at Pleasant Street.
- Attleboro — Washington Street over tracks of New York, New Haven and Hartford Railroad.
- Ayer — West Main Street over tracks of Boston and Maine Railroad.
- Belchertown — Granby Road over tracks of Boston and Maine Railroad and tracks of Central Vermont Railroad. Bondsville Road over Reservoir Outlet, over canal, and over tracks of Boston and Maine Railroad.
- Boston — Viaduct over tracks of Midland Division of New York, New Haven and Hartford Railroad, Neponset River, and River Street connecting Neponset River Parkway with the proposed extension of Canterbury Street; grade separations on proposed Clarendon Hills Parkway at Hyde Park Avenue, over tracks of the New York, New Haven and Hartford Railroad, and Poplar Street. East Boston Tunnel Road over road and proposed tracks of Boston and Maine Railroad near Orient Heights. Grade separation at Huntington Avenue and

- the Riverway. Relocation of highway at Pauls Bridge over Neponset River.
- Brookline — Grade separation on Worcester Turnpike at Brookline Village and at Cypress Street.
- Cambridge — Traffic Circle at Junction of Alewife Brook Parkway and Cambridge-Concord highway.
- Clarksburg — Extension to arch over Hoosic River.
- Cohasset — Proposed bridge over tracks of New York, New Haven and Hartford Railroad, near Black Rock Station.
- Colrain — Center bridge over East Branch of North River.
- Concord — Bridges on Cambridge-Concord highway over Concord River and over tracks of Boston and Maine Railroad.
- Conway — Bridges on Deerfield Road over Mill River.
- Dartmouth — At Westport Factory over Noquochoke Lake.
- Deerfield — Extensions to bridges on Conway Road over Mill River.
- Great Barrington — North Plain Road over Williams River.
- Hinsdale — Middlefield Road over Housatonic River.
- Lakeville — Taunton Road at Middleborough line over Poquay Trout Brook.
- Lawrence — Salem Turnpike over Shawsheen River.
- Lexington — Grade separation of proposed Cambridge-Concord highway and Waltham Street.
- Lincoln — South Great Road over tracks of Boston and Maine Railroad.
- Littleton — State highway over tracks of Boston and Maine Railroad.
- Lynn — Point of Pines bridge over Saugus River at the Revere line.
- Newbury — Newburyport Turnpike over tracks of Boston and Maine Railroad.
- Newton — Worcester Turnpike over Hammond Pond Parkway.
- Oxford — Webster Road under tracks of New York, New Haven and Hartford Railroad; Webster Road over Taft Brook.
- Pittsfield — Lebanon Avenue over tracks of Boston and Albany Railroad and over Shaker Brook.
- Quincy — Washington Street over Weymouth Fore River, at Weymouth line.
- Raynham — Taunton Turnpike over Taunton River, over Haskins Brook and over Damlot Brook.
- Revere — East Boston Tunnel Road over oil pipe corridor and over Revere Beach Parkway and Winthrop Avenue, over highway and tracks of Boston and Maine Railroad. Traffic Road at Point of Pines over tracks of Boston, Revere Beach and Lynn Railroad and private property. Highway under Parkway near Eliot Circle.
- Templeton — Phillipston Road over Crow Hill Brook.
- Waltham — Main Street over tracks of Boston and Maine Railroad at Beaver Brook Station.
- Weymouth — Main Street over tracks of New York, New Haven and Hartford Railroad.
- Winchester — Grade separation of highway and tracks of Boston and Maine Railroad.
- Yarmouth — West Yarmouth Road over Parkers River.

*Examinations, Reports, Estimates, etc., at Request of Counties, Cities and Towns*

- Amesbury — Chain Bridge over Merrimack River; examination and report of condition.
- Amesbury — Essex-Merrimac Bridge over Merrimac River; examination and report of condition.
- Amherst — Meadow Street Bridge, North Amherst; examination and estimate for a new bridge.
- Ashland — Howe Street over Indian Brook; examination and estimate for a new bridge.
- Bedford — Middlesex Turnpike over Shawsheen River; examination and advice on strength of bridge under construction.



- Chester — Main Street over West Branch of Westfield River; examination and estimate of repairs to bridge.
- Conway — Bardwell's Bridge over Deerfield River; examination and estimate for repairs.
- Framingham — Herbert Street over Beaver Dam Brook; examination and estimate for reconstruction of bridge.
- Gill — At Montague line over Connecticut River; examination and advice on repairs to bridge.
- Greenfield — Site of Smead Bridge; estimate for new bridge.
- Millville — Central Street over Blackstone River; examination and estimate for new bridge.

*Examinations, Reports, Estimates, etc., by direction of the Department  
Cities and Towns, Locality and Subject*

- Boston — Commonwealth Pier heating plant; advice on boiler installation.
- Boston — D Street garage of Department; investigation of floor design.
- Boston — New building for Public Works Department; investigation of design of basement floor.
- Colrain — Center Bridge over East Branch of North River; estimate for cost of reconstruction.
- Dighton — At the Taunton line over Three Mile River; estimate for widening bridge.
- Marshfield — State highway over South River; estimate for widening bridge.
- Newburyport — At the Salisbury line over Merrimack River; estimate for repairs to bridge.

*Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313 of Acts of 1923*

- Athol — Reconstruction of bridge on Chestnut Street over Mill Brook; reinforced concrete arch, 13-foot span.
- Concord — Repairs and additions to the three-arch bridge on Elm Street over Concord River.
- Fall River — Extension of Third Street Bridge over Quequechan River.
- Haverhill — Reconstruction of Country Bridge over East Meadow Brook; one 17-foot span.
- Haverhill — Reconstruction of North Avenue Bridge over Snow's Brook; one 12-foot span.
- Haverhill — Reconstruction of Brandy Brow Bridge over East Meadow one 13-foot span.
- Hingham — At the Weymouth line; alterations to Back River Bridge.
- Pittsfield — Bridge on West Housatonic Street over Southwest Branch of Housatonic River; one 28-foot span, steel stringer with concrete floor.
- Winchendon — George M. Whitney Memorial Bridge over Millers River; two 24-foot spans and one 26-foot span, reinforced concrete arches.
- Worcester — Southbridge Street Bridge over Blackstone River; two spans, steel stringer bridge.

*Examinations, Studies, Estimates and Reports by direction of  
Acts and Resolves of the Legislature*

- Chapter 450, Acts of 1931, Section 8. This section of the Act directs the department of public works "to make surveys and prepare plans and estimates of cost of a grade separation by means of an overpass at the intersection of the Riverway and Huntington Avenue in the City of Boston". Preliminary plans and estimates have been made.
- Chapter 241, Acts of 1932. "An Act providing for the construction of a new bridge over the Saugus river between the Point of Pines in the city of Revere and the city of Lynn". Plans and specifications have been completed.

- Chapter 258, Acts of 1932, Section 1. This section directs the department to lay out and construct a state highway "including any necessary alterations to the bridge at Beach Street, crossing the tracks of said railroad", referring to the Boston and Maine Railroad. The contract for the work has been awarded and construction work has started.
- Chapter 302, Acts of 1932. "An Act authorizing the laying out of a State highway extending from Alewife Brook Parkway in the city of Cambridge westerly through said city and the towns of Arlington, Belmont, Lexington, Lincoln and Concord." Preliminary studies for bridges in Concord have been made.
- Chapter 25, Resolves of 1932. "Resolves providing for an investigation and study by the department of public works of traffic conditions on a portion of the Fall River-New Bedford highway." The report has been filed with the clerk of the house of representatives.
- Chapter 27, Resolves of 1932. "Resolve providing for an investigation by the department of public works relative to the advisability of further dredging Lynn Harbor and Saugus River and of widening draws in bridges over said river." The report has been filed with the clerk of the house of representatives.
- Chapter 32, Resolves of 1932. "Resolve providing for the making and preparation by the department of public works of surveys, estimates, plans and specifications for the construction of a new high level bridge over the Weymouth Fore River between the city of Quincy and the town of Weymouth." The report has been filed with the clerk of the senate.

#### BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1932, was 220. In 1931 the number of such openings was 415; in 1930 the number was 335: In 1929 the number was 383.

The total expenditure during the year was \$6,839.12.

The total expenditure from 1912 to Nov. 30, 1932, inclusive, was \$178,461.68.

#### BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSFT

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure shall be paid by the Commonwealth.

Repairs made in 1932 consisted of driving steel sheeting at channel and repairs to foundations and fender piers.

The number of draw openings during the year ending Nov. 30, 1932, was 1,662. In 1931 the number of such openings was 1,700; in 1930 the number was 1,812; in 1929 the number was 1,789.

The total expenditure during the year was \$13,225.34.

The total expenditure from 1912 to Nov. 30, 1932, inclusive, was \$354,914.88.

#### BRIDGE OVER THE ACUSHNET RIVER BETWEEN CITY OF NEW BEDFORD AND THE TOWN OF FAIRHAVEN

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts



of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

Repairs made in 1932 consisted of driving steel sheeting at channel and repairs to foundations and fender piers.

Averaged over a period of years, the draw openings have numbered more than 2,900 annually.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1932, was 1,069. In 1931 the number of such openings was 2,564; and in 1932 the number was 2,384.

The total expenditure during the year was \$18,176.50.

The total expenditure while in charge of the Department has been \$51,004.99.

### CONSTRUCTION OF TOWNS AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, as revised and amended)

During the year the Department has contracted for work to be done in the towns / cities named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns / cities and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of road	Length contracted for (Feet)
<i>Barnstable County</i>					
Mashpee	\$1,600 00	—	\$1,600 00	Grading	2,400
<i>Berkshire County</i>					
Adams	8,000 00	\$8,000 00	8,000 00	Gravel and tar	4,000
Alford	6,000 00	2,500 00	3,500 00	Bridge and approaches	—
Becket	1,000 00	500 00	500 00	Gravel	900
Becket	2,000 00	1,000 00	1,000 00	Gravel	1,200
Becket	1,000 00	500 00	500 00	Gravel	575
Becket	1,250 00	625 00	625 00	Gravel (widening)	7,392
Cheshire	8,000 00	4,000 00	4,000 00	Gravel	5,200
Clarksburg	1,000 00	500 00	500 00	Gravel	900
Egremont	3,200 00	1,600 00	1,600 00	Stone retread	7,000
Florida	4,000 00	4,000 00	—	Gravel	2,550
Great Barrington	15,000 00	15,000 00	—	Bituminous macadam	6,600
Hancock	12,500 00	500 00	2,000 00	Bituminous macadam	2,600
Hancock	1,350 00	500 00	—	Oiling	37,200
Hancock	1,000 00	500 00	1,000 00	Gravel	850
Hinsdale	3,250 00	500 00	1,250 00	Bridge and approaches	—
Lanesborough	4,000 00	2,000 00	2,000 00	Stone retread	2,800
Lee	10,000 00	10,000 00	10,000 00	2 Bridges	—
Lenox	15,000 00	20,000 00	—	Bituminous macadam	2,907
Monterey	5,000 00	3,500 00	3,500 00	Stone retread	13,483
Mount Washington	1,500 00	500 00	1,000 00	Gravel	750
New Marlborough	1,875 00	1,250 00	1,000 00	Stone retread	5,500
New Marlborough	1,875 00	1,250 00	1,000 00	Stone retread	5,150
New Marlborough	3,750 00	2,500 00	2,000 00	Stone retread	10,300
New Marlborough	1,000 00	1,000 00	1,000 00	Gravel	2,400
Otis	4,000 00	500 00	4,000 00	Gravel	1,900
Otis	2,000 00	500 00	1,000 00	Gravel	975
Pittsfield	12,000 00	12,000 00	12,000 00	Bituminous macadam	6,793
Richmond	2,500 00	1,000 00	1,500 00	Gravel	1,750
Sandisfield	4,000 00	2,000 00	2,000 00	Gravel	3,220
Savoy	22,500 00	—	7,500 00	Stone and tar mixed in place and 2 bridges	4,113
Sheffield	3,000 00	2,000 00	1,500 00	Gravel	2,179
Stockbridge	20,000 00	20,000 00	10,000 00	Bituminous macadam	9,916
Tyringham	4,000 00	2,000 00	2,000 00	Stone retread	2,650
Washington	4,000 00	2,000 00	2,000 00	Gravel	2,150
West Stockbridge	6,000 00	3,000 00	3,000 00	Stone retread	2,860
Williamstown	2,000 00	4,000 00	—	Gravel	1,650
Windsor	1,000 00	500 00	500 00	Gravel and hardpan	400
Windsor	1,000 00	500 00	500 00	Gravel	525
<i>Bristol County</i>					
Berkley	1,000 00	1,000 00	1,000 00	Gravel	910
Berkley	1,000 00	1,000 00	—	Repairs and oiling	47,800
Dartmouth	2,500 00	15,000 00	2,500 00	Bridge and approaches	—
Freetown	1,000 00	1,000 00	—	Repairs and oiling	68,300
Norton	3,000 00	1,000 00	2,000 00	Gravel	1,200
Rehoboth	5,000 00	5,000 00	5,000 00	Bituminous macadam	3,000
Swansea	6,000 00	6,000 00	6,000 00	Bituminous macadam	4,450
Westport	4,000 00	4,000 00	4,000 00	Bituminous macadam	1,750

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of road	Length con- tracted for (Feet)
<i>Dukes County</i>					
Oak Bluffs	22,500 00	7,500 00	—	Bituminous concrete	6,670
Tisbury	17,500 00	8,750 00	8,750 00	Bituminous concrete	8,300
<i>Essex County</i>					
Boxford	1,000 00	1,000 00	—	Repairs and oiling	20,000
Boxford	1,000 00	1,000 00	—	Repairs and widening	1,800
Methuen	10,000 00	20,000 00	—	Bituminous macadam	5,600
Newbury	600 00	1,200 00	—	Bridge and approaches	—
Rowley	500 00	500 00	—	Repairs and oiling	11,000
<i>Franklin County</i>					
Ashfield	1,000 00	1,000 00	—	Gravel	1,000
Ashfield	2,000 00	1,000 00	1,000 00	Gravel	1,700
Buckland	6,000 00	5,000 00	1,000 00	Gravel	7,200
Charlemont	2,000 00	1,000 00	1,000 00	Stone retread	4,000
Colrain	1,000 00	1,000 00	—	Gravel	600
Colrain	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,100
Conway	3,000 00	2,000 00	1,000 00	Gravel	2,100
Deerfield	4,300 00	3,000 00	1,000 00	Bituminous macadam	2,300
Gill	2,965 00	670 00	—	Repairs and oiling	35,631
Gill	2,000 00	1,000 00	1,000 00	Gravel	1,500
Greenfield	7,000 00	6,000 00	1,000 00	Stone and tar mixed in place	8,500
Greenfield-Montague	5,000 00	—	3,500 00	Bridge repairs	—
Hawley	1,400 00	700 00	700 00	Gravel	700
Hawley	1,200 00	700 00	500 00	Gravel	1,800
Heath	2,000 00	1,000 00	1,000 00	Gravel	1,650
Leverett	2,000 00	1,000 00	1,000 00	Gravel	3,700
Leverett	500 00	500 00	—	Oiling	5,000
Leyden	2,000 00	1,000 00	1,000 00	Gravel	1,500
Monroe	1,400 00	700 00	700 00	Gravel	4,000
New Salem	2,500 00	1,500 00	1,000 00	Repairs and oiling	31,152
New Salem	1,000 00	1,000 00	—	Gravel	1,150
Northfield	2,000 00	1,000 00	1,000 00	Gravel and tar	7,400
Northfield	6,000 00	11,000 00	1,000 00	Bridge repairs	—
Orange	1,550 00	1,400 00	700 00	Gravel	2,570
Orange	600 00	600 00	300 00	Oiling	12,672
Rowe	2,000 00	1,000 00	1,000 00	Gravel	1,350
Shelburne	4,000 00	3,000 00	1,000 00	Bituminous macadam	2,000
Shelburne	1,000 00	1,000 00	—	Repairs and oiling	11,616
Shutesbury	3,000 00	2,000 00	1,000 00	Gravel	6,600
Sunderland	4,000 00	1,000 00	1,000 00	Bituminous macadam	1,740
Warwick	2,000 00	1,000 00	1,000 00	Gravel	1,400
Warwick	1,500 00	1,500 00	—	Gravel	1,000
Wendell	4,000 00	3,000 00	1,000 00	Gravel	1,800
Wendell	1,500 00	1,500 00	—	Repairs and oiling	19,008
<i>Hampden County</i>					
Agawam	14,000 00	14,000 00	14,000 00	Bituminous macadam	8,406
Blandford	11,500 00	2,000 00	11,500 00	Bituminous macadam	3,462
Blandford	2,000 00	500 00	2,000 00	Stone retread	8,400
Brimfield	4,000 00	2,000 00	4,000 00	Gravel and tar	4,900
Brimfield	300 00	200 00	300 00	Repairs and oiling	21,455
Chester	1,500 00	500 00	1,500 00	Stone retread	3,000 00
Chester	3,200 00	800 00	3,200 00	Gravel	1,100
Chester	4,000 00	800 00	4,000 00	Stone retread	5,400
Chester	—	200 00	8,000 00	Stone retread	3,850
Chicopee	30,000 00	17,000 00	13,000 00	Stone and tar mixed in place	21,319
East Longmeadow	4,000 00	2,000 00	4,000 00	Bituminous macadam	4,096
Granville	5,500 00	3,000 00	5,500 00	Bridge—gravel and tar	2,078
Granville	2,000 00	2,000 00	2,000 00	Gravel and tar	1,800
Hampden	2,000 00	1,000 00	2,000 00	Concrete	2,000
Hampden	4,000 00	2,000 00	4,000 00	Bituminous macadam	2,452
Holland	500 00	500 00	500 00	Repairs and oiling	13,746
Holland	3,200 00	800 00	3,200 00	Gravel and tar	2,050
Ludlow	4,900 00	4,900 00	4,900 00	Bituminous macadam	3,900
Ludlow	500 00	500 00	500 00	Repairs and gravel	6,336
Ludlow	2,000 00	2,000 00	2,000 00	Gravel and tar	2,250
Montgomery	3,000 00	1,000 00	3,000 00	Gravel	2,250
Russell	285 00	285 00	285 00	Repairs and oiling	3,625
Southwick	8,000 00	8,000 00	8,000 00	Bituminous macadam	1,400
Tolland	4,000 00	2,000 00	4,000 00	Bridge and approach	—
Wales	2,000 00	1,000 00	2,000 00	Gravel and tar	2,004
Wales	250 00	250 00	250 00	Repairs and oiling	6,350
West Springfield	8,000 00	8,000 00	8,000 00	Bituminous macadam	3,900
Westfield	2,000 00	2,000 00	2,000 00	Gravel	1,920
Westfield	1,000 00	1,000 00	1,000 00	Bituminous macadam	2,650
Westfield	—	8,500 00	17,000 00	Bituminous macadam	6,153
Wilbraham	4,000 00	4,000 00	4,000 00	Bituminous macadam	3,200
Wilbraham	1,000 00	1,000 00	1,000 00	Gravel retread	2,300
Wilbraham	4,000 00	1,000 00	4,000 00	Stone retread	3,000



## COUNTIES AND TOWNS

	State	CONTRIBUTIONS Town	County	Type of road	Length con- tracted for (Feet)
<i>Hampshire County</i>					
Belchertown	16,250 00	3,750 00	5,000 00	Bituminous macadam	5,950
Chesterfield	4,000 00	1,000 00	1,500 00	Stone retread	7,400
Chesterfield	1,000 00	500 00	500 00	Gravel	800
Chesterfield	1,000 00	500 00	500 00	Gravel	671
Cummington	3,000 00	1,500 00	1,500 00	Gravel	1,450
Cummington	1,000 00	500 00	500 00	Gravel	800
Cummington	400 00	200 00	200 00	Repairs	-
Easthampton	9,000 00	9,000 00	6,000 00	Bituminous macadam	5,600
Enfield	1,000 00	500 00	500 00	Repairs and oiling	18,480
Goshen	1,000 00	500 00	500 00	Gravel	550
Goshen	1,000 00	500 00	500 00	Gravel	750
Granby	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,200
Granby	4,000 00	2,000 00	2,000 00	Bituminous macadam	1,396
Greenwich	2,000 00	1,000 00	1,000 00	Repairs and oiling	26,928
Huntington	2,000 00	1,000 00	1,000 00	Gravel	1,200
Middlefield	7,000 00	1,000 00	2,000 00	Stone retread	2,900
Middlefield	600 00	300 00	300 00	Gravel	375
Middlefield	600 00	300 00	300 00	Gravel	525
Middlefield	400 00	200 00	200 00	Gravel	300
Northampton	5,000 00	5,000 00	3,000 00	Bituminous macadam	5,760
Pelham	1,000 00	500 00	500 00	Gravel	1,000
Pelham	6,800 00	1,200 00	4,000 00	Bituminous macadam	3,350
Plainfield	8,000 00	1,000 00	3,000 00	Gravel and tar	2,780
South Hadley	18,000 00	9,000 00	9,000 00	Bituminous macadam	6,255
South Hadley	750 00	375 00	375 00	Sidewalk	600
Southampton	1,000 00	500 00	500 00	Stone retread	2,000
Ware	2,000 00	1,000 00	1,000 00	Repairs and oiling	11,101
Ware	1,000 00	1,000 00	-	Repairs	32,221
Westhampton	1,500 00	750 00	750 00	Gravel	1,300
Westhampton	6,000 00	800 00	800 00	Gravel	12,700
Williamsburg	6,500 00	1,000 00	2,500 00	Gravel and tar	11,635
Worthington	3,000 00	1,500 00	1,500 00	Gravel	1,650
<i>Middlesex County</i>					
Acton	1,300 00	1,300 00	1,300 00	Repairs and oiling	91,840
Acton	2,500 00	2,500 00	2,500 00	Gravel	4,190
Acton	2,500 00	2,500 00	2,500 00	Gravel	2,500
Arlington	11,000 00	11,000 00	11,000 00	Bituminous concrete	4,060
Arlington	4,000 00	4,000 00	4,000 00	Reinforced cement concrete	978
Ashby	1,000 00	500 00	1,000 00	Repairs and oiling	17,952
Ashland	2,000 00	2,000 00	2,000 00	Repairs and oiling	22,176
Ashland	2,300 00	2,300 00	2,300 00	Gravel and tar	400
Ashland	700 00	700 00	700 00	Gravel	1,200
Ayer	1,500 00	1,500 00	1,500 00	Gravel	3,000
Ayer	2,500 00	2,500 00	2,500 00	Repairs and oiling	24,050
Bedford	2,300 00	2,300 00	2,300 00	Repairs and oiling	46,464
Belmont	18,000 00	18,000 00	18,000 00	Bituminous macadam	4,764
Billerica	4,500 00	4,500 00	4,500 00	Gravel	1,650
Billerica	2,000 00	2,000 00	2,000 00	Repairs and oiling	63,360
Billerica	2,000 00	2,000 00	2,000 00	Bridge	-
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,400
Boxborough	750 00	750 00	750 00	Oiling	34,584
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,400
Burlington	3,000 00	3,000 00	3,000 00	Gravel	4,500
Burlington	2,500 00	2,500 00	2,500 00	Gravel	4,250
Burlington	1,500 00	2,000 00	1,500 00	Repairs and oiling	52,800
Burlington	1,500 00	2,000 00	1,500 00	Repairs and oiling	64,644
Carlisle	1,500 00	1,500 00	1,500 00	Bituminous macadam	3,950
Chelmsford	3,000 00	3,000 00	3,000 00	Gravel	1,605
Chelmsford	800 00	800 00	800 00	Repairs and oiling	8,976
Chelmsford	1,000 00	1,000 00	1,000 00	Repairs and oiling	78,672
Chelmsford	1,000 00	1,000 00	1,000 00	Repairs and oiling	-
Concord	1,500 00	7,500 00	1,500 00	Bridge	-
Dunstable	2,000 00	1,000 00	2,000 00	Repairs and oiling	15,300
Dunstable	1,750 00	1,750 00	1,750 00	Repairs and oiling	49,104
Framingham	5,000 00	5,000 00	5,000 00	Bridge and approaches	-
Framingham	4,500 00	4,500 00	4,500 00	Bituminous macadam	1,450
Groton	3,500 00	3,500 00	3,500 00	Repairs and oiling	44,880
Groton	3,000 00	3,000 00	3,000 00	Gravel	3,500
Holliston	1,500 00	1,500 00	1,500 00	Repairs and oiling	46,992
Hopkinton	4,000 00	2,000 00	4,000 00	Bituminous macadam	2,200
Hopkinton	2,000 00	2,000 00	2,000 00	Oiling	64,888
Hudson	2,000 00	2,000 00	2,000 00	Bituminous macadam	550
Hudson	1,500 00	1,500 00	1,500 00	Repairs and oiling	22,440
Lexington	3,000 00	3,000 00	3,000 00	Bituminous macadam	2,900
Lincoln	1,200 00	1,200 00	1,200 00	Repairs and oiling	52,800
Littleton	2,000 00	2,000 00	2,000 00	Repairs and oiling	48,040
Littleton	1,000 00	1,000 00	1,000 00	Gravel and tar	2,000
Littleton	1,000 00	1,000 00	1,000 00	Gravel	1,800
Lowell	6,000 00	6,000 00	6,000 00	Bituminous macadam	2,180
				Gravel	8,050
Malden	20,000 00	40,000 00	20,000 00	Reinforced cement concrete	3,747
Natick	5,000 00	5,000 00	5,000 00	Bituminous macadam	3,100
Newton	35,000 00	75,000 00	30,000 00	Reinforced cement concrete and bituminous concrete	12,460
North Reading	3,000 00	3,000 00	3,000 00	Bituminous macadam	3,200

## COUNTIES AND TOWNS

	State	CONTRIBUTIONS Town	County	Type of road	Length con- tracted for (Feet)
<i>Middlesex County — Continued</i>					
North Reading . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . . . .	52,272
Pepperell . . . . .	3,000 00	3,000 00	3,000 00	Repairs and oiling . . . . .	68,640
Pepperell . . . . .	4,000 00	4,000 00	4,000 00	Gravel and tar . . . . .	3,625
Reading . . . . .	7,000 00	7,000 00	7,000 00	Reinforced cement concrete . . . . .	1,005
Sherborn . . . . .	10,000 00	5,000 00	10,000 00	Bituminous macadam . . . . .	5,000
Sherborn . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	4,450
Sherborn . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . . . .	71,280
Shirley . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	51,216
Stoneham . . . . .	4,800 00	4,800 00	4,800 00	Bituminous macadam . . . . .	2,050
Stow . . . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . . . .	41,184
Sudbury . . . . .	3,000 00	3,000 00	3,000 00	Repairs and oiling . . . . .	79,728
Tewksbury . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	31,680
Tewksbury . . . . .	750 00	750 00	750 00	Gravel . . . . .	3,150
Tewksbury . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	3,500
Townsend . . . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . . . .	37,488
Townsend . . . . .	6,000 00	2,000 00	4,000 00	Gravel . . . . .	6,000
Tyngsborough . . . . .	2,000 00	1,000 00	2,000 00	Repairs and oiling . . . . .	58,080
Tyngsborough . . . . .	2,000 00	2,000 00	2,000 00	Gravel and tar . . . . .	2,800
Tyngsborough . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	2,800
Watertown . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	3,200
Wayland . . . . .	4,000 00	4,000 00	4,000 00	Repairs and oiling . . . . .	48,576
Wayland . . . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam . . . . .	8,000
Westford . . . . .	6,000 00	6,000 00	6,000 00	Repairs and oiling . . . . .	107,712
Westford . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,600
Westford . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,500
Wilmington . . . . .	2,000 00	2,000 00	2,000 00	Gravel and tar . . . . .	3,400
Wilmington . . . . .	750 00	750 00	750 00	Repairs and oiling . . . . .	23,232
Wilmington . . . . .	1,500 00	1,500 00	1,500 00	Bridge . . . . .	-
<i>Norfolk County</i>					
Bellingham . . . . .	2,650 00	1,325 00	1,325 00	Repairs and oiling . . . . .	23,700
Franklin . . . . .	2,000 00	2,000 00	2,000 00	Gravel and tar . . . . .	2,050
Franklin . . . . .	4,000 00	4,000 00	4,000 00	Gravel . . . . .	4,450
Medway . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	32,270
Millis . . . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	4,900
Millis . . . . .	700 00	700 00	700 00	Gravel . . . . .	400
Norfolk . . . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . . . .	45,665
Norfolk . . . . .	1,250 00	500 00	1,250 00	N.Y.N.H.&H.R.R. . . . .	\$1,250
Plainville . . . . .	4,000 00	2,000 00	2,000 00	Gravel and tar . . . . .	1,125
Walpole . . . . .	1,250 00	1,500 00	1,250 00	N.Y.N.H.&H.R.R. . . . .	\$1,250
Weymouth . . . . .	300 00	300 00	300 00	Drainage . . . . .	1,000
<i>Plymouth County</i>					
Bridgewater . . . . .	4,000 00	2,500 00	2,500 00	Gravel . . . . .	5,050
Carver . . . . .	500 00	1,000 00	500 00	Bituminous concrete . . . . .	530
Halifax . . . . .	5,000 00	2,500 00	2,500 00	Gravel . . . . .	7,200
Hanson . . . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	3,800
Lakeville . . . . .	1,000 00	500 00	500 00	Grading and oiling . . . . .	8,450
Marshfield . . . . .	5,000 00	7,000 00	5,000 00	Bituminous macadam . . . . .	4,614
Middleborough . . . . .	7,500 00	7,500 00	7,500 00	Gravel . . . . .	17,100
Pembroke . . . . .	2,500 00	6,000 00	3,000 00	Gravel . . . . .	6,100
Plympton . . . . .	4,000 00	2,000 00	2,000 00	Gravel . . . . .	6,300
Rochester . . . . .	8,000 00	4,000 00	4,000 00	Gravel . . . . .	10,850
Rockland . . . . .	8,000 00	4,000 00	4,000 00	Bituminous macadam . . . . .	2,340
<i>Worcester County</i>					
Ashburnham . . . . .	12,000 00	7,500 00	10,500 00	Gravel and tar . . . . .	10,667
Ashburnham . . . . .	900 00	750 00	900 00	Repairs and oiling . . . . .	21,067
Athol . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	28,353
Berlin . . . . .	2,500 00	1,000 00	2,500 00	Repairs and oiling . . . . .	43,085
Berlin . . . . .	5,500 00	3,500 00	5,500 00	Gravel and tar . . . . .	3,013
Berlin . . . . .	500 00	500 00	500 00	Gravel . . . . .	700
Blackstone . . . . .	2,000 00	2,000 00	2,000 00	Gravel and tar . . . . .	2,400
Blackstone . . . . .	700 00	700 00	700 00	Repairs and oiling . . . . .	17,320
Blackstone . . . . .	4,000 00	4,000 00	4,000 00	Gravel and tar . . . . .	5,950
Bolton . . . . .	5,000 00	1,000 00	5,000 00	Bituminous macadam . . . . .	2,300
Bolton . . . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . . . .	11,722
Boylston . . . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . . . .	46,574
Boylston . . . . .	2,500 00	500 00	2,500 00	Gravel . . . . .	3,050
Brookfield . . . . .	1,400 00	700 00	1,400 00	Repairs and oiling . . . . .	21,912
Dana . . . . .	1,800 00	500 00	1,800 00	Gravel and tar . . . . .	1,700
Dana . . . . .	2,500 00	1,000 00	2,500 00	Repairs and oiling . . . . .	61,269
Gardner . . . . .	5,000 00	10,000 00	5,000 00	Bituminous macadam . . . . .	2,620
Hardwick . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	1,494
Hardwick . . . . .	1,300 00	1,300 00	1,300 00	Repairs and oiling . . . . .	40,656
Harvard . . . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . . . .	18,216
Holden . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	34,123
Hubbardston . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	3,300
Hubbardston . . . . .	1,000 00	500 00	1,000 00	Gravel and tar . . . . .	1,350
Hubbardston . . . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . . . .	43,455
Leominster . . . . .	1,900 00	1,900 00	1,900 00	Gravel and tar . . . . .	1,972
Lunenburg . . . . .	13,500 00	2,700 00	10,800 00	Gravel and tar . . . . .	8,076
Lunenburg . . . . .	2,000 00	1,000 00	2,000 00	Repairs and oiling . . . . .	25,977



COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of road	Length con- tracted for (Feet)
<i>Worcester County — Continued</i>					
Lunenburg	2,500 00	—	2,500 00	Gravel	1,550
Mendon	2,200 00	1,100 00	2,200 00	Gravel and tar	2,900
Mendon	1,000 00	500 00	1,000 00	Repairs and oiling	21,264
Milford	20,000 00	20,000 00	20,000 00	Cement concrete	4,133
Millville	3,000 00	1,500 00	3,000 00	Gravel and tar	2,800
New Braintree	1,000 00	500 00	1,000 00	Repairs and oiling	38,277
New Braintree	3,000 00	1,500 00	3,000 00	Gravel and tar	8,601
North Brookfield	3,000 00	3,000 00	3,000 00	Gravel and tar	3,418
North Brookfield	700 00	700 00	700 00	Repairs and oiling	10,615
Northbridge	4,000 00	4,000 00	4,000 00	Gravel and tar	3,850
Northbridge	2,000 00	2,000 00	2,000 00	Gravel and tar	3,300
Northbridge	2,500 00	2,500 00	2,500 00	Gravel and tar	790
Oakham	3,000 00	1,500 00	3,000 00	Repairs and oiling	38,461
Oakham	1,100 00	800 00	1,100 00	Gravel and tar	3,600
Paxton	4,000 00	2,000 00	4,000 00	Gravel and tar	2,700
Paxton	1,200 00	600 00	1,200 00	Repairs and oiling	30,384
Petersham	1,500 00	1,500 00	1,500 00	Repairs and oiling	34,024
Phillipston	500 00	500 00	500 00	Repairs and oiling	25,660
Phillipston	4,500 00	1,000 00	4,500 00	Gravel	3,050
Princeton	2,000 00	1,000 00	2,000 00	Gravel and tar	5,050
				Grading	2,250
Princeton	3,000 00	—	3,000 00	Gravel and tar	1,250
Princeton	2,000 00	1,000 00	2,000 00	Repairs and oiling	70,940
Royalston	2,200 00	1,300 00	2,200 00	Oiling	36,590
Royalston	500 00	500 00	500 00	Gravel	19,113
Rutland	4,000 00	2,000 00	4,000 00	Gravel and tar	3,450
Rutland	2,000 00	1,000 00	2,000 00	Repairs and oiling	30,624
Shrewsbury	300 00	300 00	300 00	Repairs and oiling	3,800
Southborough	300 00	300 00	300 00	Repairs and oiling	21,120
Spencer	500 00	500 00	500 00	Repairs and oiling	26,928
Sterling	4,000 00	2,000 00	4,000 00	Gravel and tar	6,259
Sterling	4,000 00	2,000 00	4,000 00	Gravel	6,150
Sterling	2,000 00	1,000 00	2,000 00	Repairs and oiling	44,252
Sturbridge	2,000 00	1,000 00	2,000 00	Gravel and tar	2,550
Sturbridge	1,400 00	700 00	1,400 00	Gravel and tar	1,100
Sutton	1,200 00	600 00	1,200 00	Repairs and oiling	16,157
Sutton	5,000 00	2,500 00	5,000 00	Gravel and tar	5,000
Templeton	1,400 00	1,400 00	1,400 00	Repairs and oiling	39,772
Upton	4,000 00	2,000 00	4,000 00	Gravel and tar	3,550
Upton	400 00	200 00	400 00	Culvert	—
Warren	3,000 00	2,500 00	3,000 00	Gravel and tar	5,100
West Boylston	1,000 00	800 00	1,000 00	Repairs and oiling	31,152
West Boylston	250 00	250 00	250 00	Repairs and oiling	31,152
West Brookfield	2,000 00	1,000 00	2,000 00	Gravel and tar	2,550
Westborough	800 00	800 00	800 00	Repairs and oiling	46,929
Westminster	2,500 00	1,250 00	2,500 00	Gravel and tar	3,450
Westminster	2,000 00	1,250 00	2,000 00	Repairs and oiling	28,984
Westminster	2,500 00	1,250 00	2,500 00	Grading and drainage	4,805
Westminster	500 00	250 00	500 00	Gravel and tar	250

### EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were:—

Barnstable, \$17,369.74	Hampshire, \$302,614.05
Berkshire, \$259,124.91	Middlesex, \$341,988.90
Bristol, \$31,126.33	Nantucket, \$1,943.35
Dukes, \$34,555.57	Norfolk, \$62,044.90
Essex, \$60,097.93	Plymouth, \$72,287.36
Franklin, \$106,715.41	Worcester, \$252,209.22
Hampden, \$286,042.29	Total, \$1,828,119.96

Details of the foregoing expenditures follow:—

*Barnstable County.*—Barnstable, \$1,909.91; Bourne \$15,459.83.

*Berkshire County.*—Adams, \$9,196.07; Alford, \$4,931.73; Becket, \$6,313.20; Cheshire, \$8,368.30; Clarksburg, \$1,262.64; Egremont, \$4,040.45; Florida, \$5,046.74; Great Barrington, \$32,366.70; Hancock, \$15,956.03; Hinsdale, \$3,907.98; Lanesboro, \$5,050.11; Lee, \$7,618.62; Lenox, \$18,939.61; Monterey, \$18,055.12; Mount Washington, \$1,893.96; New Marlboro, \$10,683.52; Otis, \$7,432.41; Peru, \$2,523.33; Pittsfield, \$11,247.54; Richmond, \$3,156.60; Sandisfield, \$5,050.52; Savoy, \$22,584.41; Sheffield, \$3,787.92; Stockbridge, \$24,628.95; Tyringham, \$5,050.56; Washington, \$5,050.55; West Stockbridge, \$9,932.14; Williamstown, \$2,524.27; Windsor, \$2,524.93.

*Bristol County.*—Attleboro, \$5,209.10; Berkley, \$2,260.28; Dartmouth,



\$1,713.14; Freetown, \$1,262.64; Norton, \$3,787.92; Rehoboth, \$6,002.80; Seekonk, \$936.66; Swansea, \$4,903.23; Westport, \$5,050.56.

*Dukes County.*—Oak Bluffs, \$15,151.69; Tisbury, \$19,403.88.

*Essex County.*—Boxford, \$2,525.28; Danvers, \$1,131.00; Georgetown, \$6,518.41; Hamilton, \$118.10; Lynnfield, \$1,947.33; Marblehead, \$2,110.24; Methuen, \$6,734.08; Newbury, \$8,492.87; Newburyport, \$3,391.33; Rowley, \$6,589.28; Salisbury, \$2,209.96; Saugus, \$6,659.77; Topsfield, \$7,021.82; Wenham, \$4,631.11; West Newbury, \$17.35.

*Franklin County.*—Ashfield, \$3,786.85; Buckland, \$7,575.85; Charlemont, \$2,525.28; Colrain, \$3,787.71; Conway, \$3,787.93; Deerfield, \$5,422.87; Gill, \$6,210.88; Greenfield, \$10,013.99; Hawley, \$3,282.87; Heath, \$2,522.39; Leverett, \$3,156.60; Leydon, \$2,525.28; Monroe, \$1,767.69; Montague, \$1,175.50; New Salem, \$4,419.24; Northfield, \$9,894.09; Orange, \$2,714.68; Rowe, \$2,525.28; Shelburne, \$6,313.20; Shutesbury, \$3,787.92; Sunderland, \$8,155.56; Warwick, \$4,419.23; Wendell, \$6,944.52.

*Hampden County.*—Agawam, \$14,595.22; Blandford, \$16,847.43; Brimfield, \$5,429.35; Chester, \$10,984.76; Chicopee, \$123,568.28; East Longmeadow, \$5,050.56; Granville, \$5,764.57; Hampden, \$7,575.85; Holland, \$4,981.66; Holyoke, \$1,262.64; Ludlow, \$9,337.30; Montgomery, \$3,787.85; Palmer, \$124.28; Russell, \$359.86; Southwick, \$6,121.34; Springfield, \$41,550.39; Tolland, \$4,879.95; Wales, \$2,589.36; Westfield, \$3,787.92; West Springfield, \$8,053.52; Wilbraham, \$9,390.20.

*Hampshire County.*—Amherst, \$2,050.47; Belchertown, \$95,132.40; Chesterfield, \$11,321.58; Cummington, \$5,333.97; Easthampton, \$11,363.76; Enfield, \$1,260.59; Goshen, \$2,525.28; Granby, \$7,575.85; Greenwich, \$2,525.28; Hadley, \$3,129.67; Huntington, \$2,524.59; Middlefield, \$10,857.73; Northampton, \$6,313.20; Pelham, \$10,027.39; Plainfield, \$23,844.99; Southampton, \$1,262.65; South Hadley, \$26,495.80; Ware, \$61,088.87; Westhampton, \$1,893.96; Williamsburg, \$12,298.85; Worthington, \$3,787.17.

*Middlesex County.*—Acton, \$7,954.64; Arlington, \$17,190.02; Ashby, \$1,262.64; Ashland, \$7,246.66; Ayer, \$5,050.56; Bedford, \$4,166.63; Belmont, \$17,058.92; Billerica, \$9,749.31; Boxboro, \$3,441.06; Burlington, \$8,772.32; Carlisle, \$1,893.96; Chelmsford, \$6,694.89; Concord, \$2,290.91; Dunstable, \$4,734.26; Framingham, \$12,867.28; Groton, \$8,194.27; Holliston, \$4,345.97; Hopkinton, \$7,575.42; Hudson, \$4,474.87; Lexington, \$2,525.28; Lincoln, \$2,208.98; Littleton, \$5,050.09; Lowell, \$4,660.37; Malden, \$15,362.12; Melrose, \$3,056.06; Natick, \$6,287.22; Newton, \$37,879.22; North Reading, \$6,313.16; Pepperell, \$8,708.71; Reading, \$7,402.35; Sherborn, \$20,507.29; Shirley, \$4,040.93; Stoneham, \$5,888.76; Stow, \$1,893.96; Sudbury, \$3,787.58; Tewksbury, \$4,355.86; Townsend, \$9,621.32; Tyngsboro, \$7,575.85; Wakefield, \$302.17; Watertown, \$10,521.99; Wayland, \$20,966.21; Westford, \$13,110.15; Wilmington, \$4,998.68.

*Nantucket County.*—Nantucket, \$1,943.35.

*Norfolk County.*—Avon, \$1,673.99; Bellingham, \$3,345.97; Canton, \$2,799.33; Franklin, \$13,418.83; Holbrook, \$1,438.95; Medway, \$5,618.02; Millis, \$5,364.77; Needham, \$2,467.82; Norfolk, \$2,509.31; Norwood, \$1,312.15; Plainville, \$7,787.05; Randolph, \$3,353.78; Sharon, \$3,420.30; Walpole, \$778.57; Westwood, \$4,238.18; Wrentham, \$2,517.88.

*Plymouth County.*—Bridgewater, \$5,084.54; Carver, \$631.32; Halifax, \$10,852.05; Hanson, \$12,121.15; Hingham, \$4,575.85; Lakeville, \$1,262.64; Middleboro, \$10,071.55; Pembroke, \$3,156.60; Plympton, \$5,599.51; Rochester, \$7,817.91; Rockland, \$11,114.24.

*Worcester County.*—Ashburnham, \$20,698.52; Athol, \$1,262.64; Barre, \$1,042.37; Berlin, \$7,454.10; Blackstone, \$8,759.38; Bolton, \$9,202.02; Boylston, \$1,262.64; Brookfield, \$2,749.11; Charlton, \$123.18; Dana, \$4,985.20; Fitchburg, \$15,016.08; Gardner, \$6,313.20; Grafton, \$383.01; Hardwick, \$5,429.35; Holden, \$1,262.36; Hubbardston, \$6,321.69; Leicester, \$2,898.86; Leominster, \$1,309.49; Lunenburg, \$15,667.28; Mendon, \$3,082.52; Milford, \$18,686.49; Millville, \$296.89; New Braintree, \$4,161.-



04; North Brookfield, \$4,921.75; Northboro, \$4,159.92; Northbridge, \$13,-763.70; Oakham, \$5,173.14; Oxford, \$4.21; Paxton, \$4,898.85; Petersham, \$1,893.93; Phillipston, \$8,882.52; Princeton, \$11,436.67; Royalston, \$5,-629.09; Rutland, \$6,796.37; Shrewsbury, \$378.79; Southboro, \$378.73; Spencer, \$614.05; Sterling, \$9,078.11; Sturbridge, \$3,775.12; Sutton, \$10,-633.66; Templeton, \$1,766.20; Upton, \$4,983.43; Warren, \$2,626.99; West Brookfield, \$1,482.45; Westboro, \$3,360.01; Westminster, \$7,204.11.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE  
HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended.)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles Of Road	Allotment	
		State	Town
<i>Barnstable County:</i>			
Brewster . . . . .	40	\$4,000 00	\$4,000 00
Dennis . . . . .	79	7,900 00	7,900 00
Eastham . . . . .	41	4,100 00	3,075 00
Mashpee . . . . .	27	2,700 00	2,025 00
Sandwich . . . . .	67	6,700 00	6,700 00
Truro . . . . .	28	2,800 00	3,500 00
Wellfleet . . . . .	35	3,500 00	4,375 00
<i>Berkshire County:</i>			
Alford . . . . .	19	1,900 00	760 00
Becket . . . . .	58	5 800 00	2,320 00
Cheshire . . . . .	42	4,200 00	4,200 00
Clarksburg . . . . .	14	1,400 00	2,100 00
Egremont . . . . .	32	3,200 00	2,400 00
Florida . . . . .	43	4,300 00	3,225 00
Hancock . . . . .	30	3,000 00	1,200 00
Hinsdale . . . . .	35	3,500 00	2,625 00
Lanesborough . . . . .	42	4,200 00	3,150 00
Monterey . . . . .	52	5,200 00	2,080 00
Mount Washington . . . . .	20	2,000 00	500 00
New Ashford . . . . .	9	900 00	360 00
New Marlborough . . . . .	85	8,500 00	3,400 00
Otis . . . . .	48	4,800 00	1,200 00
Peru . . . . .	37	3,700 00	555 00
Richmond . . . . .	34	3,400 00	1,700 00
Sandisfield . . . . .	79	7,900 00	1,185 00
Savoy . . . . .	56	5,600 00	840 00
Sheffield . . . . .	77	7,700 00	3,850 00
Tyringham . . . . .	25	2,500 00	1,000 00
Washington . . . . .	51	5,100 00	765 00
West Stockbridge . . . . .	36	3,600 00	2,700 00
Windsor . . . . .	65	6,500 00	975 00
<i>Bristol County:</i>			
Berkley . . . . .	42	4,200 00	2,100 00
Freetown . . . . .	47	4,700 00	3,525 00
Norton . . . . .	56	5,600 00	5,600 00
Raynham . . . . .	45	4,500 00	4,500 00
Rehoboth . . . . .	109	10,900 00	5,450 00
Swansea . . . . .	55	5,500 00	8,250 00

Counties and Towns	Miles Of Road	Allotment	
		State	Town
<i>Dukes County:</i>			
Chilmark . . . . .	14	1,400 00	1,400 00
West Tisbury . . . . .	13	1,300 00	1,950 00
<i>Essex County:</i>			
Boxford . . . . .	52	5,200 00	2,600 00
Essex . . . . .	21	2,100 00	3,150 00
Georgetown . . . . .	34	3,400 00	4,250 00
Groveland . . . . .	29	2,900 00	3,625 00
Merrimac . . . . .	31	3,100 00	4,650 00
Middleton . . . . .	30	3,000 00	4,500 00
Newbury . . . . .	37	3,700 00	4,625 00
Rowley . . . . .	31	3,100 00	3,100 00
Topsfield . . . . .	38	3,800 00	5,700 00
West Newbury . . . . .	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield . . . . .	81	8,100 00	3,240 00
Bernardston . . . . .	40	4,000 00	3,000 00
Buckland . . . . .	45	4,500 00	5,625 00
Charlemont . . . . .	49	4,900 00	2,450 00
Colrain . . . . .	84	8,400 00	3,360 00
Conway . . . . .	72	7,200 00	2,880 00
Deerfield . . . . .	82	8,200 00	10,250 00
Gill . . . . .	34	3,400 00	2,550 00
Hawley . . . . .	49	4,900 00	735 00
Heath . . . . .	53	5,300 00	795 00
Leverett . . . . .	38	3,800 00	1,520 00
Leydon . . . . .	39	3,900 00	585 00
Monroe . . . . .	18	1,800 00	2,250 00
Northfield . . . . .	66	6,600 00	4,950 00
New Salem . . . . .	64	6,400 00	960 00
Rowe . . . . .	41	4,100 00	1,640 00
Shelburne . . . . .	48	4,800 00	6,000 00
Shutesbury . . . . .	40	4,000 00	1,000 00
Sunderland . . . . .	34	3,400 00	2,550 00
Warwick . . . . .	55	5,500 00	825 00
Wendell . . . . .	48	4,800 00	2,400 00
Whately . . . . .	40	4,000 00	3,000 00
<i>Hampden County:</i>			
Blandford . . . . .	75	7,500 00	1,875 00
Brimfield . . . . .	59	5,900 00	2,950 00
Chester . . . . .	66	6,600 00	3,300 00
Granville . . . . .	73	7,300 00	5,475 00
Hampden . . . . .	34	3,400 00	1,700 00
Holland . . . . .	30	3,000 00	450 00
Monson . . . . .	101	10,100 00	7,575 00
Montgomery . . . . .	27	2,700 00	675 00
Southwick . . . . .	50	5,000 00	5,000 00
Tolland . . . . .	41	4,100 00	615 00
Wales . . . . .	25	2,500 00	1,000 00
Wilbraham . . . . .	43	4,300 00	6,450 00
<i>Hampshire County:</i>			
Belchertown . . . . .	115	11,500 00	4,600 00
Chesterfield . . . . .	59	5,900 00	1,475 00
Cummington . . . . .	49	4,900 00	1,225 00
Enfield . . . . .	37	3,700 00	1,480 00



Counties and Towns	Miles Of Road	Allotment	
		State	Town
<i>Hampshire County—Continued</i>			
Goshen . . . . .	28	2,800 00	700 00
Granby . . . . .	48	4,800 00	2,400 00
Greenwich . . . . .	39	3,900 00	1,560 00
Hadley . . . . .	58	5,800 00	7,250 00
Hatfield . . . . .	46	4,600 00	5,750 00
Huntington . . . . .	40	4,000 00	3,000 00
Middlefield . . . . .	40	4,000 00	600 00
Pelham . . . . .	39	3,900 00	1,560 00
Plainfield . . . . .	49	4,900 00	735 00
Prescott . . . . .	39	3,900 00	585 00
Southampton . . . . .	56	5,600 00	2,240 00
Westhampton . . . . .	50	5,000 00	750 00
Williamsburg . . . . .	43	4,300 00	3,225 00
Worthington . . . . .	73	7,300 00	1,095 00
<i>Middlesex County:</i>			
Acton . . . . .	58	5,800 00	8,700 00
Ashby . . . . .	56	5,600 00	2,240 00
Ashland . . . . .	38	3,800 00	5,700 00
Bedford . . . . .	35	3,500 00	5,250 00
Boxborough . . . . .	23	2,300 00	920 00
Burlington . . . . .	34	3,400 00	5,100 00
Carlisle . . . . .	42	4,200 00	3,150 00
Dracut . . . . .	61	6,100 00	9,150 00
Dunstable . . . . .	37	3,700 00	925 00
Groton . . . . .	70	7,000 00	10,500 00
Holliston . . . . .	50	5,000 00	7,500 00
Hopkinton . . . . .	66	6,600 00	6,600 00
Lincoln . . . . .	40	4,000 00	6,000 00
Littleton . . . . .	42	4,200 00	5,250 00
North Reading . . . . .	31	3,100 00	4,650 00
Pepperell . . . . .	68	6,800 00	6,800 00
Sherborn . . . . .	43	4,300 00	4,300 00
Shirley . . . . .	46	4,600 00	4,600 00
Stow . . . . .	45	4,500 00	3,375 00
Sudbury . . . . .	64	6,400 00	4,800 00
Tewksbury . . . . .	56	5,600 00	8,400 00
Townsend . . . . .	70	7,000 00	5,250 00
Tyngsborough . . . . .	40	4,000 00	3,000 00
Westford . . . . .	85	8,500 00	10,625 00
<i>Norfolk County:</i>			
Bellingham . . . . .	43	4,300 00	6,450 00
Medfield . . . . .	40	4,000 00	6,000 00
Medway . . . . .	44	4,400 00	6,600 00
Millis . . . . .	39	3,900 00	5,850 00
Norfolk . . . . .	41	4,100 00	4,100 00
Plainville . . . . .	31	3,100 00	3,875 00
<i>Plymouth County:</i>			
Carver . . . . .	68	6,800 00	6,800 00
Halifax . . . . .	33	3,300 00	3,300 00
Hanson . . . . .	36	3,600 00	5,400 00
Lakeville . . . . .	41	4,100 00	3,075 00
Norwell . . . . .	47	4,700 00	4,700 00
Pembroke . . . . .	47	4,700 00	5,875 00
Plympton . . . . .	30	3,000 00	1,500 00
Rochester . . . . .	49	4,900 00	3,675 00

Counties and Towns	Miles Of Road	Allotment	
		State	Town
<i>Worcester County:</i>			
Ashburnham . . . . .	75	7,500 00	5,625 00
Barre . . . . .	110	11,000 00	8,250 00
Berlin . . . . .	39	3,900 00	2,925 00
Bolton . . . . .	53	5,300 00	2,650 00
Boylston . . . . .	41	4,100 00	2,050 00
Brookfield . . . . .	37	3,700 00	3,700 00
Charlton . . . . .	115	11,500 00	4,600 00
Dana . . . . .	43	4,300 00	1,720 00
Douglas . . . . .	70	7,000 00	5,250 00
Dudley . . . . .	63	6,300 00	7,875 00
East Brookfield . . . . .	19	1,900 00	2,375 00
Grafton . . . . .	110	11,000 00	11,000 00
Hardwick . . . . .	96	9,600 00	7,200 00
Harvard . . . . .	56	5,600 00	5,600 00
Holden . . . . .	77	7,700 00	7,700 00
Hubbardston . . . . .	75	7,500 00	1,875 00
Lancaster . . . . .	58	5,800 00	7,250 00
Leicester . . . . .	66	6,600 00	8,250 00
Lunenburg . . . . .	67	6,700 00	5,025 00
Mendon . . . . .	36	3,600 00	3,600 00
New Braintree . . . . .	49	4,900 00	1,225 00
North Brookfield . . . . .	69	6,900 00	6,900 00
Northborough . . . . .	47	4,700 00	4,700 00
Oakham . . . . .	45	4,500 00	1,125 00
Oxford . . . . .	66	6,600 00	8,250 00
Paxton . . . . .	29	2,900 00	2,175 00
Petersham . . . . .	71	7,100 00	3,550 00
Phillipston . . . . .	41	4,100 00	1,025 00
Princeton . . . . .	72	7,200 00	2,880 00
Royalston . . . . .	67	6,700 00	1,675 00
Rutland . . . . .	68	6,800 00	3,400 00
Southborough . . . . .	48	4,800 00	7,200 00
Spencer . . . . .	100	10,000 00	12,500 00
Sterling . . . . .	72	7,200 00	5,400 00
Sturbridge . . . . .	66	6,600 00	3,300 00
Sutton . . . . .	84	8,400 00	4,200 00
Templeton . . . . .	62	6,200 00	7,750 00
Upton . . . . .	60	6,000 00	4,500 00
Warren . . . . .	71	7,100 00	8,875 00
West Boylston . . . . .	35	3,500 00	5,250 00
West Brookfield . . . . .	53	5,300 00	3,975 00
Westborough . . . . .	57	5,700 00	8,550 00
Westminster . . . . .	77	7,700 00	3,080 00

## EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various Counties were:—

Barnstable, \$34,536.29	Hampden, \$68,277.18
Berkshire, \$101,530.10	Hampshire, \$99,029.87
Bristol, \$37,823.51	Middlesex, \$122,825.28
Dukes, \$2,690.18	Norfolk, \$26,016.75
Essex, \$54,927.03	Plymouth, \$38,008.84
Franklin, \$117,068.59	Worcester, \$290,630.59
	Total, \$993,364.21

Details of the foregoing expenditures follow:—

*Barnstable County.*—Brewster, \$4,405.36; Dennis, \$8,909.10; Eastham, \$4,328.84; Mashpee, \$3,038.93; Sandwich, \$6,613.50; Truro, \$3,078.28; Wellfleet, \$3,905.79; Yarmouth, \$256.49.



*Berkshire County.*—Alford, \$2,076.97; Becket, \$5,919.74; Cheshire, \$4,434.62; Clarksburg, \$1,470.27; Egremont, \$3,718.04; Florida, \$4,651.01; Hancock, \$2,880.48; Hinsdale, \$3,903.89; Lanesboro, \$4,522.07; Monterey, \$4,961.23; Mount Washington, \$1,784.01; New Ashford, \$1,716.46; New Marlboro, \$7,698.07; Otis, \$5,259.95; Peru, \$4,065.72; Richmond, \$3,696.11; Sandisfield, \$7,825.11; Savoy, \$6,897.38; Sheffield, \$5,008.12; Tyringham, \$3,021.08; Washington, \$4,931.96; West Stockbridge, \$4,674.52; Windsor, \$6,413.29.

*Bristol County.*—Berkley, \$3,717.53; Freetown, \$5,137.76; Norton, \$6,121.59; Raynham, \$4,919.13; Rehoboth, \$11,915.23; Swansea, \$6,012.27;

*Dukes County.*—Chilmark, \$1,269.10; West Tisbury, \$1,421.08.

*Essex County.*—Boxford, \$6,676.37; Essex, \$4,591.19; Georgetown, \$7,433.36; Groveland, \$3,716.68; Merrimac, \$3,498.05; Middleton, \$3,643.81; Newbury, \$7,979.92; Rowley, \$4,310.79; Topsfield, \$4,987.62; West Newbury, \$8,089.24.

*Franklin County.*—Ashfield, \$9,127.52; Bernardston, \$4,372.53; Buckland, \$5,001.08; Charlemont, \$5,356.31; Colrain, \$8,663.14; Conway, \$6,586.17; Deerfield, \$8,936.42; Gill, \$3,334.08; Hawley, \$5,356.39; Heath, \$5,793.65; Leverett, \$4,150.03; Leydon, \$4,263.25; Monroe, \$1,967.65; New Salem, \$6,750.14; Northfield, \$7,105.41; Rowe, \$4,481.88; Shelburne, \$4,153.93; Shutesbury, \$4,370.05; Sunderland, \$3,552.71; Warwick, \$6,012.27; Wendell, \$4,509.21; Whately, \$3,224.77.

*Hampden County.*—Blandford, \$6,870.77; Brimfield, \$6,633.89; Chester, \$8,301.63; Granville, \$7,979.93; Hampden, \$3,771.34; Holland, \$3,334.47; Monson, \$11,044.12; Montgomery, \$3,242.30; Southwick, \$5,465.70; Tolland, \$4,434.97; Wales, \$2,825.50; Wilbraham, \$4,372.56.

*Hampshire County.*—Belchertown, \$12,489.13; Chesterfield, \$6,612.00; Cummington, \$5,356.39; Enfield, \$3,962.46; Goshen, \$3,060.79; Granby, \$5,137.76; Greenwich, \$4,071.95; Hadley, \$6,394.77; Hatfield, \$3,853.32; Huntington, \$4,388.40; Middlefield, \$4,725.99; Pelham, \$4,399.89; Plainfield, \$5,356.39; Prescott, \$4,782.49; Southampton, \$6,121.59; Westhampton, \$5,465.70; Williamsburg, \$4,809.71; Worthington, \$8,041.14.

*Middlesex County.*—Acton, \$6,340.22; Ashby, \$6,121.59; Ashland, \$4,153.93; Bedford, \$3,825.99; Boxboro, \$2,514.23; Burlington, \$3,716.68; Carlisle, \$4,591.19; Dunstable, \$4,044.62; Groton, \$7,651.98; Holliston, \$5,465.70; Hopkinton, \$5,531.29; Lincoln, \$4,372.56; Littleton, \$4,591.19; North Reading, \$3,388.74; Pepperell, \$7,433.36; Sherborn, \$4,700.50; Shirley, \$5,028.45; Stow, \$4,919.13; Sudbury, \$6,996.10; Tewksbury, \$6,121.59; Townsend, \$7,651.98; Tyngsboro, \$4,372.56; Westford, \$9,291.70.

*Norfolk County.*—Bellingham, \$4,700.50; Medfield, \$4,372.56; Medway, \$4,809.82; Millis, \$4,263.25; Norfolk, \$4,481.88; Plainville, \$3,388.74.

*Plymouth County.*—Carver, \$7,310.33; Halifax, \$3,313.11; Hanson, \$3,774.43; Lakeville, \$4,481.70; Norwell, \$5,322.93; Pembroke, \$5,018.22; Plympton, \$3,216.69; Rochester, \$5,377.70; West Bridgewater, \$193.73.

*Worcester County.*—Ashburnham, \$8,198.15; Barre, \$12,036.39; Berlin, \$4,263.25; Bolton, \$5,772.44; Boylston, \$4,118.71; Brookfield, \$3,631.60; Charlton, \$13,060.62; Dana, \$4,700.50; Douglas, \$7,779.39; East Brookfield, \$2,076.76; Grafton, \$12,024.55; Hardwick, \$10,570.56; Harvard, \$6,121.59; Holden, \$8,355.22; Hubbardston, \$8,213.61; Lancaster, \$6,340.22; Leicester, \$7,003.03; Lunenburg, \$7,071.02; Mendon, \$3,935.27; New Braintree, \$5,312.95; North Brookfield, \$7,606.01; Northborough, \$5,137.76; Oakham, \$5,292.00; Oxford, \$7,301.37; Paxton, \$2,836.62; Petersham, \$7,761.30; Phillipston, \$4,481.88; Princeton, \$7,754.51; Royalston, \$7,324.04; Rutland, \$7,433.36; Southborough, \$4,442.43; Spencer, \$10,868.32; Sterling, \$8,087.37; Sturbridge, \$7,203.49; Sutton, \$8,881.99; Templeton, \$7,097.29; Upton, \$8,762.95; Warren, \$7,165.21; West Boylston, \$3,825.99; West Brookfield, \$5,865.69; Westborough, \$6,498.00; Westminster, \$8,417.18.



## CONTRACTS FOR THE CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS IN ANTICIPATION OF APPROPRIATIONS

In Nov. 1932, preparations were made for advertising contracts under the provisions of section 27, chapter 29, General Laws, as amended and revised, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding \$1,100,000. The making of these contracts as aforesaid was approved by the Governor and Council on Dec. 7, 1932.

### HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

Contracts were entered into during the year, as follows, for the construction of State highways in the towns of Needham and Wellesley in accordance with the provisions of chapter 420 of the Acts of 1930, as amended by chapter 454 of the Acts of 1931, and in the city of Revere in accordance with the provisions of chapter 445 of the Acts of 1931, as amended by chapter 258 of the Acts of 1932:

#### *Needham-Wellesley*

Feb. 2, 1932, contract made with John F. Rooney & Company, of Milford, for constructing a reinforced concrete arch rigid frame bridge in Needham under Highland Avenue and a steel plate girder railroad bridge in Needham over the tracks of the New York, New Haven & Hartford Railroad, and constructing about 19,306 feet of State highway on Greendale Avenue, new location and Reservoir Street in Needham and Wellesley; the surface consisting of sections of bituminous macadam constructed on each side of a loam space, and sections of bituminous concrete. The proposal amounted to \$231,095.35. Work about nine-tenths completed. Expenditure during 1932, \$221,003.12.

#### *Revere*

Nov. 15, 1932, contract made with Coleman Bros., Incorporated, of Boston, for constructing a deck plate girder and reinforced concrete beam bridge on Beach Street over the tracks of the Boston and Maine Railroad, and constructing about 4,800 feet of State highway on Beach Street; the surface except over the railroad tracks consisting of two roadways of bituminous macadam separated by a center section of loam, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$188,807.34. Work just commenced. Expenditure during 1932, \$935.27.

### TRAFFIC CONTROL SIGNALS

The following contracts were entered into this year for furnishing and installing traffic control signals:

*Somerset.*—Jan. 19, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$2,912.00. Work completed Mar. 24, 1932. Expenditure during 1932, \$2,192.00.

*Framingham.*—Feb. 9, 1932, contract made with the Eagle Signal Corporation, of Boston. The proposal amounted to \$4,221.00. Work completed May 26, 1932. Expenditure during 1932, \$4,251.00.

*North Andover.*—May 10, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$2,179.00. Work completed July 15, 1932. Expenditure during 1932, \$2,179.00.

*Canton.*—May 17, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$1,794.00. Work completed July 26, 1932. Expenditure during 1932, \$1,794.00.

*Easton.*—May 17, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$1,888.00. Work completed July 7, 1932. Expenditure during 1932, \$1,888.00.



*Milford.*—May 31, 1932, contract made with the Davis-Chase Electric Co., of Brockton. The proposal amounted to \$715.00. Work completed Aug. 10, 1932. Expenditure during 1932, \$715.00.

*Watertown.*—July 26, 1932, contract made with The Equipment Company, of Boston. The proposal amounted to \$850.00. Work completed Aug. 19, 1932. Expenditure during 1932, \$850.00.

*Canton.*—July 26, 1932, contract made with the Eagle Signal Corporation, of Boston. The proposal amounted to \$566.00. Work completed Aug. 31, 1932. Expenditure during 1932, \$566.00.

*Weymouth.*—July 26, 1932, contract made with the Eagle Signal Corporation, of Boston. The proposal amounted to \$2,799.00. Work completed Oct. 1, 1932. Expenditure during 1932, \$2,799.00.

*Andover.*—Aug. 9, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$2,397.00. Work completed Oct. 27, 1932. Expenditure during 1932, \$2,397.00.

*Hingham.*—Aug. 9, 1932, contract made with Kenworthy & Taylor, Inc., of Everett. The proposal amounted to \$848.00. Work completed Aug. 18, 1932. Expenditure during 1932, \$848.00.

*Quincy.*—Sept. 13, 1932, contract made with The Niles Company, of Lowell. The proposal amounted to \$1,150.00. Work completed Nov. 19, 1932. Expenditure during 1932, Nothing.

#### ERECTION OF NEW OFFICE BUILDING

In accordance with the provisions of chapter 122 of the Acts of 1931 the following contract was entered into:

*Boston.*—December 8, 1931, contract made with the F. V. Warren Co., of Philadelphia, Pa., for the erection of an office building for the Department of Public Works of the Commonwealth of Massachusetts. The proposal amounted to \$1,307,811.00. Work about 75% completed. Expenditure during 1932, \$955,959.05.

#### D STREET GARAGE

In connection with the construction of a new garage at D Street, South Boston, the following contracts were entered into:

September 27, 1932, contract made with Thibeau & Comeau, of Cambridge, for constructing a garage at D Street, South Boston. The proposal amounted to \$41,571.00. Work practically completed. Expenditure during 1932, \$24,451.10.

Oct. 11, 1932, contract made with the Reliable Automatic Sprinkler Co. of New England, of Boston, for furnishing and installing a wet pipe system of automatic sprinklers at the D Street Garage, South Boston. The proposal amounted to \$3,650.00. Work practically completed. Expenditure during 1932 nothing.

Oct. 11, 1932, contract made with H. M. Haley Electric Company, Inc., of Boston, for furnishing and installing a system of electric wiring for garage at D Street, South Boston. The proposal amounted to \$2,784.00. Work not yet commenced.

Oct. 25, 1932, contract made with the Acme Heating and Ventilating Company, of Boston, for furnishing and installing a heating system for the garage at D Street, South Boston. The proposal amounted to \$8,824.00. Work just commenced. Expenditure during 1932, \$1,880.20.

#### DISTRIBUTION OF A CERTAIN PROPORTION OF THE GAS TAX, AS PROVIDED UNDER CHAPTER 122, SECTION 4, ACTS OF 1931, AS AMENDED BY CHAPTER 243, ACTS OF 1932

Distribution as follows:—

Abington, \$5,349.07; Acushnet, \$3,048.40; Adams, \$10,985.73; Agawam, \$7,879.82; Amesbury, \$9,777.88; Amherst, \$7,764.78; Andover, \$15,011.91; Arlington, \$50,212.27; Athol, \$10,007.94; Attleborough, \$22,259.05;



Auburn, \$5,349.07; Avon, \$1,955.58; Ayer, \$3,163.43; Barnstable, \$17,-772.73; Belmont, \$36,465.72; Beverly, \$38,881.43; Billerica, \$7,592.23; Blackstone, \$2,300.68; Boston, \$1,484,396.52; Bourne, \$7,189.61; Braintree, \$20,821.12; Bridgewater, \$5,406.59; Brockton, \$68,387.61; Brookline, \$128,895.40; Cambridge, \$161,219.91; Canton, \$7,649.75; Chatham, \$4,-371.29; Chelmsford, \$5,464.11; Chelsea, \$45,553.40; Chicopee, \$38,076.20; Clinton, \$11,906.00; Cohasset, \$8,109.89; Concord, \$7,994.85; Dalton, \$5,-349.07; Danvers, \$10,928.21; Dartmouth, \$9,605.32; Dedham, \$20,188.44; Dighton, \$3,566.05; Dover, \$2,990.88; Duxbury, \$5,464.11; East Bridge-water, \$4,486.32; East Longmeadow, \$3,335.98; Easthampton, \$8,397.47; Easton, \$5,061.49; Edgartown, \$3,681.08; Erving, \$1,898.06; Everett, \$59,645.04; Fairhaven, \$10,410.56; Fall River, \$103,818.03; Falmouth, \$16,162.25; Fitchburg, \$47,508.97; Foxborough, \$5,119.01; Framingham, \$28,931.01; Franklin, \$7,879.82; Gardner, \$20,245.95; Gay Head, \$115.-03; Gloucester, \$32,497.06; Gosnold, \$977.79; Great Barrington, \$7,994.85; Greenfield, \$22,431.60; Hamilton, \$4,371.29; Hanover, \$3,278.46; Harwich, \$4,486.32; Haverhill, \$50,384.82; Hingham, \$11,963.52; Holbrook, \$3,-105.91; Holyoke, \$86,102.82; Hopedale, \$4,371.29; Hudson, \$6,441.89; Hull, \$13,056.34; Ipswich, \$6,154.31; Kingston, \$3,623.57; Lawrence, \$95,-190.49; Lee, \$4,371.29; Lenox, \$5,003.97; Leominster, \$20,993.67; Lex-ington, \$16,679.91; Longmeadow, \$9,317.74; Lowell, \$98,468.96; Ludlow, \$7,304.65; Lynn, \$118,599.88; Lynnfield, \$2,760.81; Malden, \$60,737.86; Manchester, \$9,490.29; Mansfield, \$6,499.41; Marblehead, \$15,702.12; Marion, \$3,911.15; Marlborough, \$13,919.09; Marshfield, \$5,579.14; Matta-poisett, \$2,990.88; Maynard, \$5,866.73; Medford, \$67,179.76; Melrose, \$29,966.31; Methuen, \$17,370.11; Middleborough, \$7,764.78; Milford, \$13,-286.41; Millbury, \$5,521.62; Millville, \$1,265.37; Milton, \$28,700.94; Mon-tague, \$10,065.46; Nahant, \$4,486.32; Nantucket \$9,432.77; Natick, \$16,-277.29; Needham, \$18,577.96; New Bedford, \$126,479.69; Newburyport, \$12,078.55; Newton, \$124,811.70; North Adams, \$20,360.99; North An-dover, \$7,477.20; North Attleboro, \$9,145.19; Northampton, \$23,236.83; Northbridge, \$8,685.05; Norwood, \$22,316.56; Oak Bluffs, \$3,911.15; Orange, \$4,888.94; Orleans, \$3,048.40; Palmer, \$9,030.16; Peabody, \$21,-913.94; Pittsfield, \$53,318.18; Plymouth, \$21,683.88; Provincetown, \$3,-738.60; Quincy, \$103,703.00; Randolph, \$5,061.49; Reading, \$12,826.27; Revere, \$33,589.88; Rockland, \$7,189.61; Rockport, \$4,716.39; Russell, \$3,-623.57; Salem, \$48,486.76; Salisbury, \$2,530.74; Saugus, \$12,538.69; Scituate, \$9,950.43; Seekonk, \$4,083.70; Sharon, \$5,176.52; Shrewsbury, \$7,477.20; Somerset, \$10,122.98; Somerville, \$104,450.72; South Hadley, \$6,729.48; Southbridge, \$10,928.21; Springfield, \$240,190.63; Stockbridge, \$4,256.25; Stoneham, \$12,481.17; Stoughton, \$7,937.33; Swampscott, \$20,-245.95; Taunton, \$33,014.71; Tisbury, \$4,601.35; Uxbridge, \$6,441.89; Wakefield, \$18,750.51; Walpole, \$13,516.47; Waltham, \$47,508.97; Ware, \$5,809.21; Wareham, \$10,122.98; Watertown, \$44,920.71; Wayland, \$4,-486.32; Webster, \$9,835.39; Wellesley, \$27,953.22; Wenham, \$2,875.85; West Bridgewater, \$4,875.00; West Springfield, \$23,409.38; Westfield, \$17,657.69; Weston, \$7,189.61; Westport, \$4,831.42; Westwood, \$3,911.15; Weymouth, \$37,558.54; Whitman, \$7,649.75; Williamstown, \$5,809.21; Wilmington, \$3,566.05; Winchendon, \$5,234.04; Winchester, \$24,962.34; Winthrop, \$20,706.09; Woburn, \$19,728.30; Worcester, \$276,368.77; Wren-tham, \$5,375.00; Yarmouth, \$6,375.00. Total, \$5,500,000.00.

ADDITIONAL AMOUNTS PAID FROM GAS TAX IN ACCORDANCE WITH  
PROVISIONS OF CHAPTER 122, SECTION 4, ACTS OF 1931, AS  
AMENDED BY CHAPTER 243, ACTS OF 1932

Distribution to towns eligible for aid under the provisions of section 26, Chapter 81, Revised Laws, as amended, as follows:—

Acton, \$2,900.00; Alford, \$950.00; Ashburnham, \$3,750.00; Ashby, \$2,-800.00; Ashfield, \$4,050.00; Ashland, \$1,900.00; Barre, \$5,500.00; Becket, \$2,900.00; Bedford, \$1,750.00; Belchertown, \$5,750.00; Bellingham, \$2,-



150.00; Berkley, \$2,100.00; Berlin, \$1,950.00; Bernardston, \$2,000.00; Blandford, \$3,750.00; Bolton, \$2,650.00; Boxboro, \$1,150.00; Boxford, \$2,600.00; Boylston, \$2,050.00; Brewster, \$2,000.00; Brimfield, \$2,950.00; Brookfield, \$1,850.00; Buckland, \$2,250.00; Burlington, \$1,700.00; Carlisle, \$2,100.00; Carver, \$3,400.00; Charlemont, \$2,450.00; Charlton, \$5,750.00; Cheshire, \$2,100.00; Chester, \$3,300.00; Chesterfield, \$2,950.00; Chilmark, \$700.00; Clarksburg, \$700.00; Colrain, \$4,200.00; Conway, \$3,600.00; Cummington, \$2,450.00; Dana, \$2,150.00; Deerfield, \$4,100.00; Dennis, \$3,950.00; Douglas, \$3,500.00; Dracut, \$3,050.00; Dudley, \$3,150.00; Dunstable, \$1,850.00; East Brookfield, \$950.00; Eastham, \$2,050.00; Egremont, \$1,600.00; Enfield, \$1,850.00; Essex, \$1,050.00; Florida, \$2,150.00; Freetown, \$2,350.00; Georgetown, \$1,700.00; Gill, \$1,700.00; Goshen, \$1,400.00; Grafton, \$5,500.00; Granby, \$2,400.00; Granville, \$3,650.00; Greenwich, \$1,950.00; Groton, \$3,500.00; Groveland, \$1,450.00; Hadley, \$2,900.00; Halifax, \$1,650.00; Hampden, \$1,700.00; Hancock, \$1,500.00; Hanson, \$1,800.00; Hardwick, \$4,800.00; Harvard, \$2,800.00; Hatfield, \$2,300.00; Hawley, \$2,450.00; Heath, \$2,650.00; Hinsdale, \$1,750.00; Holden, \$3,850.00; Holland, \$1,500.00; Holliston, \$2,500.00; Hopkinton, \$3,300.00; Hubbardston, \$3,750.00; Huntington, \$2,000.00; Lakeville, \$2,050.00; Lancaster, \$2,900.00; Lanesborough, \$2,100.00; Leicester, \$3,300.00; Leverett, \$1,900.00; Leyden, \$1,950.00; Lincoln, \$2,000.00; Littleton, \$2,100.00; Lunenburg, \$3,350.00; Mashpee, \$1,350.00; Medfield, \$2,000.00; Medway, \$2,200.00; Mendon, \$1,800.00; Merrimac, \$1,550.00; Middlefield, \$2,000.00; Middleton, \$1,500.00; Millis, \$1,950.00; Monroe, \$900.00; Monson, \$5,050.00; Monterey, \$2,600.00; Montgomery, \$1,350.00; Mount Washington, \$1,000.00; New Ashford, \$450.00; New Braintree, \$2,450.00; New Marlboro, \$4,250.00; New Salem, \$3,200.00; Newbury, \$1,850.00; Norfolk, \$2,050.00; North Brookfield, \$3,450.00; North Reading, \$1,550.00; Northboro, \$2,350.00; Northfield, \$3,300.00; Norton, \$2,800.00; Norwell, \$2,350.00; Oakham, \$2,250.00; Otis, \$2,400.00; Oxford, \$3,300.00; Paxton, \$1,450.00; Pelham, \$1,950.00; Pembroke, \$2,350.00; Pepperell, \$3,400.00; Peru, \$1,850.00; Petersham, \$3,550.00; Phillipston, \$2,050.00; Plainfield, \$2,450.00; Plainville, \$1,550.00; Plympton, \$1,500.00; Prescott, \$1,950.00; Princeton, \$3,600.00; Raynham, \$2,250.00; Rehoboth, \$5,450.00; Richmond, \$1,700.00; Rochester, \$2,450.00; Rowe, \$2,050.00; Rowley, \$1,550.00; Royalston, \$3,350.00; Rutland, \$3,400.00; Sandisfield, \$3,950.00; Sandwich, \$3,350.00; Savoy, \$2,800.00; Sheffield, \$3,850.00; Shelburne, \$2,400.00; Sherborn, \$2,150.00; Shirley, \$2,300.00; Shutesbury, \$2,000.00; Southampton, \$2,800.00; Southboro, \$2,400.00; Southwick, \$2,500.00; Spencer, \$5,000.00; Sterling, \$3,600.00; Stow, \$2,250.00; Sturbridge, \$3,300.00; Sudbury, \$3,200.00; Sunderland, \$1,700.00; Sutton, \$4,200.00; Swansea, \$2,750.00; Templeton, \$3,100.00; Tewksbury, \$2,800.00; Tolland, \$2,050.00; Topsfield, \$1,900.00; Townsend, \$3,500.00; Truro, \$1,400.00; Tyngsboro, \$2,000.00; Tyringham, \$1,250.00; Upton, \$3,000.00; Wales, \$1,250.00; Warren, \$3,550.00; Warwick, \$2,750.00; Washington, \$2,550.00; Wellfleet, \$1,750.00; Wendell, \$2,400.00; West Boylston, \$1,750.00; West Brookfield, \$2,650.00; West Newbury, \$1,850.00; West Stockbridge, \$1,800.00; West Tisbury, \$650.00; Westboro, \$2,850.00; Westford, \$4,250.00; Westhampton, \$2,500.00; Westminster, \$3,850.00; Whately, \$2,000.00; Wilbraham, \$2,150.00; Williamsburg, \$2,150.00; Windsor, \$3,250.00; Worthington, \$3,650.00. Total, \$459,150.00.

#### REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW

(Sections 29-33, chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33 inclusive, Chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reservation, the Department adopted on Jan. 24,



1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

*Applications, Licenses and Permits.*—Licenses were granted to 26 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 365 applications received for permits for the erection of advertising signs, 227 permits have been granted; and 25 permits were granted on applications filed previous to 1932. Sixty-one applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 16 applications for permits were cancelled.

Of 3,072 renewal applications sent to those whose permits were to expire June 30, 1932—2,645 were returned to the Department requesting renewal; and 300 requested that permits be cancelled. The number of renewal applications approved, to be in force, until June 30, 1933, was 2809. The total number of permits in force Nov. 30, 1932 was 2,968.

*Receipts and Expenditures.*—The total receipts for the year ending Nov. 30, 1932, were \$13,598.87 and the expenditures were \$15,049.38.

*The Removal of Signs.*—The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 100,000 signs during the year in addition to 3000 removed by other agents of the Department, under authority of section 30-A, chapter 93, General Laws.

*Injunction.*—On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners, constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the Rules and Regulations for the control and restriction of the billboards, signs and other devices, promulgated under date of Jan. 24, 1924. This injunction is still in force and will be until the case is settled in Court.

*Hearings.*—Hearings were given to officials of Winchester, Framingham and Fall River; to one licensed advertiser and to one property owner.



## CONTRACT PRICES DEC. 1, 1931, TO NOV. 30, 1932

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Gals.)	Concrete Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)			
Alford.	G. Ferullo, Inc..	\$0 40	\$0 30	\$4 00	-	-	-	-
Amesbury & Salisbury.	G. Rotundi & Son	0 15	-	1 50	\$0 60	\$9 00	\$0 065	-
Andover	P. J. Holland	0 20	-	3 00	0 50	14 00	0 08	\$6 00
Arlington	J. P. McCabe	30	-	2 00	-	-	0 08	5 50
Arlington	A. G. Tomasello	30	-	3 00	-	-	-	5 50
Ashburnham	Rome Const. Co.	0 20	0 20	2 00	0 75	1 00	10	-
Auburn & Oxford	Frank & Frank Const. Co.	0 50	-	0 50	0 90	15 00	075	6 00
*Barnstable & Yarmouth	M. F. Roach & Sons, Inc.	0 13	0 13	0 13	0 55	10 00	0 095	-
Belchertown & Granby	Lane Const. Co.	0 20	0 20	1 50	0 50	12 00	0 08	-
*Belchertown	Rome Const. Co.	0 20	0 20	1 00	0 70	10 00	0 07	-
Beverly	Welch & Moynihan	0 18	-	0 18	0 50	12 00	0 07	-
Billerica & Chelmsford	Central Const. Co.	0 20	-	3 00	0 50	12 00	0 07	-
Blackstone, Millville & Uxbridge	John F. Kennedy & Co.	0 20	-	5 00	0 60	14 00	0 07	-
Bourne & Falmouth	Thos. J. McCue	0 18	0 20	0 50	0 60	8 00	0 06	-
Charlton	Perini & Ampollini	0 50	-	0 50	0 50	14 00	0 08	-
*Cohasset & Hingham	V. Barletta Co.	0 70	0 25	0 70	1 00	10 00	0 06	-
Dartmouth	Chas. I. Hosmer	0 20	0 23	1 00	-	-	-	-
Dighton & Taunton	Jas. H. Kerr	0 20	0 20	2 00	0 50	10 00	0 06	-
Dedham, Norwood, Westwood.	Arute Bros.	0 15†	-	2 00	0 40	10 00	0 06	5 00
Edgartown & Oak Bluffs	O. W. Miller	0 50	0 50	1 00	-	-	-	-
Egremont	J. M. Kelley Co.	0 50	0 20	2 00	0 75	-	0 08	-
Fall River & Somerset	H. C. Hanson	-	-	-	-	-	-	-
Framingham	E. Iacozzi.	-	-	5 00	-	-	-	-
Granville & Tolland	Albany Bridge Works	-	-	1 00	-	-	-	-
Hancock	D. J. Walsh	0 25	0 50	1 00	0 75	12 00	0 09	-
*Hancock & Pittsfield	Lane Const. Co.	0 35	-	0 35	1 00	12 00	0 075	5 75
Hanson	Arute Bros.	0 25	-	3 00	0 50	14 00	0 07	-
Hingham & Norwell	Arute Bros.	0 25	-	1 00	0 50	15 00	0 20	5 40
Hingham	Nat. Gunitr Contr. Co.	-	-	-	-	-	-	-
*Ipswich	Greenough Con. Co.	0 12	0 05	1 50	0 80	10 00	0 06	-
Lee	Lee Cons. Co., Inc.	-	-	1 50	-	-	-	-
Lee & Stockbridge	Crane Con. Co.	0 17	-	2 00	0 60	10 00	0 07	-
Lenox	Edgewood Conc. Co.	0 25	-	0 25	0 90	-	0 085	-
Lenox & Pittsfield.	N. H. Road Const. Co., Inc.	0 50	-	0 50	0 90	12 00	0 085	4 90
Leominster & Lunenburg	G. Bonazzoli & Sons	0 30	0 25	0 30	0 50	11 50	0 095	-
Littleton	Greenough Con. Co.	0 20	0 20	-	0 80	15 00	0 07	-
Marshfield	Ellsworth H. Lewis	0 15	0 15	2 00	0 50	10 00	0 07	-
Mendon	Jos. DeVries & Son	0 20	0 20	3 00	1 00	15 00	-	-
Middleboro, Rochester & Wareham	Eastern Contracting Co.	0 18	-	1 00	0 40	12 00	0 065	-
Middleboro	Powers Bros.	0 15	-	0 15	0 50	9 00	0 095	-
Milford	Edw. F. Jones	0 10	-	1 00	0 50	14 00	0 07	6 00
Needham & Wellesley	John F. Rooney & Co.	0 25	0 25	0 25	1 00	13 50	0 07	-
Newton	Sherry Con. Co., Inc.	0 05	-	1 00	0 40	-	0 06	6 00
Newton & Wellesley	Coleman Bros.	0 22	0 22	1 20	0 50	13 00	0 06	4 85
Northboro & Shrewsbury	Mario Pandolf Co., Inc.	0 25	-	1 50	0 65	15 00	0 07	6 00
*Oakham & Rutland	Greenough Cons. Co.	0 17	0 07	1 50	0 60	15 00	0 07	-
Pelham	Warner & Goodwin	0 20	-	2 00	1 00	12 00	0 085	-
Pittsfield	Lane Const. Co., Inc.	0 30	0 10	0 30	1 25	12 00	0 075	5 50
Pittsfield	C. B. Lindholm	0 20	0 20	1 00	0 80	15 00	0 085	-
Plainville	Arute Bros., Inc.	0 20	0 25	3 00	0 50	12 00	-	-
Reading	P. J. Holland	0 05	-	5 00	-	-	-	5 30
Rehoboth	Sherry Con. Co., Inc.	0 25	0 25	2 50	0 70	16 00	0 065	-
Revere (culv.)	J. A. Cavanagh.	-	-	1 00	0 90	-	-	-
Revere (cut-off)	Coleman Bros.	0 22	0 15	2 50	0 50	10 00	0 06	5 00
Rochester	M. F. Roach & Sons	0 22	0 22	0 22	0 50	15 00	0 10	-
Salisbury	J. E. Watkins Co.	0 20	0 20	-	0 50	-	0 065	-
Savoy	Rome Con. Co., Inc.	0 60	0 25	0 60	1 00	12 00	-	-
Sherborn	M. F. Roach & Sons	0 20	0 22	1 50	0 60	13 00	0 06	-
Stockbridge	J. De Michiel & Sons.	0 25	-	1 00	0 45	13 00	0 09	-

\*Federal Aid Emergency Construction Project.

†Price includes extra requirements for which see special provisions.

CONTRACT PRICES DEC. 1, 1931, TO NOV. 30, 1932

Broken Stone (Cu. Yd.)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERTS (lineal feet)								Stock Fence (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow (Cu. Yd.)
		CLAY			REINF. CONCRETE									
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.						
-	-	-	-	-	-	-	-	-	-	-	-	\$14 85	\$0 50	
\$1 25	\$0 42	\$0 30	\$0 35	\$0 55	\$0 63	\$0 85	\$1 25	\$2 00	\$0 12	-	30 00	15 00	0 22	
1 60	0 45	0 35	0 40	-	0 70	1 00	1 50	2 30	0 30	-	35 00	25 00	0 42	
1 40	-	-	-	-	-	-	-	-	-	-	-	-	0 40	
-	0 40	-	-	-	-	-	-	-	-	-	-	-	0 50	
2 25	0 45	-	0 50	-	0 85	-	-	-	0 15	1 40	40 00	12 00	0 30	
3 50	0 38	-	0 50	-	0 70	-	1 25	-	0 11	-	30 00	-	-	
1 70	0 40	0 35	0 40	0 70	-	-	-	-	0 15	-	40 00	13 00	0 20	
1 40	0 38	-	-	-	0 70	-	-	-	0 10	-	35 00	12 00	0 20	
1 10	0 45	0 28	0 35	-	0 65	-	1 25	-	-	-	32 00	-	0 30	
1 60	0 40	0 33	0 40	0 65	0 65	0 90	1 20	-	0 13	-	35 00	14 00	0 20	
1 90	0 40	-	0 37	-	-	-	-	-	-	-	-	20 00	0 22	
2 00	0 35	-	-	-	-	-	-	-	0 20	-	30 00	10 00	0 20	
2 50	0 42	-	0 45	-	0 75	-	-	-	0 15	-	40 00	14 00	0 27	
1 30	0 45	-	0 35	-	0 45	0 90	1 30	2 00	0 18	-	35 00	12 00	0 25	
-	0 45	-	-	-	-	-	-	-	-	-	-	15 00	0 30	
1 50	0 45	-	-	-	-	-	-	-	0 15	-	30 00	16 00	0 30	
1 40	0 40	0 30	0 35	0 60	0 60	0 90	1 20	2 00	0 13	-	30 00	10 00	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1 75	0 45	-	-	-	0 50	-	-	-	-	1 00	-	14 00	0 25	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	14 00	0 50	
2 40	0 40	-	-	-	-	-	-	-	0 13	-	-	14 00	-	
-	-	-	-	-	-	-	-	-	-	-	-	13 00	0 40	
2 25	0 40	-	0 35	-	0 75	-	1 35	2 00	0 15	-	45 00	13 00	0 35	
2 00	0 45	0 35	0 45	-	-	-	-	-	-	-	40 00	25 00	0 25	
-	0 45	-	0 40	0 75	0 65	0 90	1 35	2 50	0 15	-	40 00	15 00	0 30	
1 00	0 37	0 30	0 35	0 55	0 70	-	-	2 00	0 14	-	30 00	10 00	0 30	
1 30	0 40	-	0 40	-	1 00	-	1 50	3 00	-	-	-	12 50	0 40	
-	-	-	0 70	-	-	-	-	-	-	-	30 00	12 00	0 20	
3 00	0 40	-	-	-	-	-	-	-	0 15	-	40 00	-	0 50	
-	-	-	-	-	-	-	-	-	-	-	40 00	15 00	0 40	
3 00	0 41	-	0 40	-	-	-	-	-	0 15	1 25	35 00	11 50	0 25	
1 70	0 40	-	0 35	-	0 80	-	-	-	0 15	-	40 00	15 00	0 25	
1 65	0 30	-	-	-	-	-	-	-	-	-	30 00	10 00	0 15	
-	-	-	-	-	-	-	-	-	0 15	1 00	-	18 00	0 20	
2 30	0 40	-	0 40	-	0 70	-	-	-	0 15	-	33 00	16 00	0 30	
-	0 45	-	-	-	-	-	-	-	0 16	-	30 00	9 00	0 20	
2 00	-	-	0 40	0 60	-	-	-	-	-	-	34 00	-	0 30	
1 55	0 50	0 35	0 40	0 70	0 65	1 25	1 40	2 40	0 18	-	40 00	13 50	0 25	
1 35	-	-	0 60	0 60	0 60	-	-	2 00	-	-	40 00	-	0 20	
1 20	-	0 30	0 38	0 62	0 65	-	1 30	-	0 20	-	35 00	10 00	0 22	
2 25	0 50	-	0 45	0 70	0 80	-	1 45	2 75	0 18	-	40 00	17 00	0 38	
1 35	0 37	-	0 40	-	0 70	-	0 90	-	0 13	-	30 00	16 80	0 30	
1 60	-	-	-	-	-	-	-	-	0 15	-	40 00	15 00	0 30	
2 40	0 40	-	0 40	0 70	0 85	-	1 50	-	0 15	-	40 00	14 00	0 45	
1 90	0 40	-	0 50	-	-	-	-	2 00	-	-	40 00	20 00	0 35	
-	0 45	-	0 30	-	-	-	-	-	0 15	1 00	40 00	-	0 25	
2 10	0 45	0 30	-	-	-	-	-	-	-	-	-	-	0 30	
-	-	-	-	-	-	-	-	-	0 16	-	40 00	20 00	0 35	
0 80	-	0 30	0 35	0 60	4 00	-	4 00	-	-	-	-	8 00	1 00	
-	0 45	0 35	0 45	-	0 60	0 80	1 18	2 00	0 10	-	25 00	12 00	0 20	
1 65	-	0 35	-	-	-	-	-	-	0 16	-	35 00	15 00	0 22	
2 00	0 40	-	-	-	-	-	-	-	-	-	35 00	-	0 35	
1 75	0 38	-	-	-	-	-	-	-	-	1 40	-	12 50	0 35	
1 82	0 39	-	-	-	-	-	-	-	0 12	-	33 00	14 00	0 30	
-	-	-	-	-	-	-	-	-	0 14	-	40 00	14 00	0 38	



CONTRACT PRICES DEC. 1, 1931 TO NOV. 30, 1932 — *Continued*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Gals.)	Concrete Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)			
Stoneham . .	M. McDonough Co. . .	0 10	-	1 50	0 50	40 00	0 065	-
Swansea . .	E. F. Jones . .	0 20	0 25	1 50	0 50	15 00	0 065	-
Tewksbury . .	R. A. Richard & Co. . .	0 20	0 20	1 00	-	-	0 085	-
Waltham . .	Greenough Con. Co. . .	0 20	-	1 50	1 00	15 00	0 07	-
*Wellesley (W.) . .	C. Bianchi Co., Inc. . .	0 18	0 18	1 00	0 60	15 00	0 07	5 50
*Wellesley (C.) . .	Simpson Bros. . .	0 15	-	1 40	0 70	15 00	0 06½	5 00
*Wellesley (E.) . .	State Con. Co. . .	0 12	0 17	1 00	0 50	13 00	0 06½	5 30
W. Newbury . .	P. J. Holland . .	0 15	0 01	1 50	0 45	10 00	0 07	-
W. Newbury . .	M. McDonough Co. . .	0 12	-	2 00	0 40	9 00	0 065	-
Westfield . .	Boston Bridge Wks. . .	-	-	1 90	-	-	-	-
Westminster . .	Perini & Ampollini . .	0 15	0 15	1 50	0 50	10 00	-	-
Westfield & W. Springfield . .	Fred T. Ley & Co. . .	0 20	0 20	2 00	0 75	15 00	0 08	-
Whitman . .	Eastern Contr. Co. . .	0 22	-	1 50	0 60	12 00	0 065	-
Worcester & W. Boylston . .	Charles E. Horne . .	0 18	-	1 50	0 80	14 00	0 075	-
Worthington . .	Lane Con. Corp. . .	0 20	-	3 00	0 75	15 00	0 07	-

CONTRACT PRICES DEC. 1, 1931 TO NOV. 30, 1932 — Continued

Broken Stone (Cu. Yd.)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERTS (lineal feet)								Stock Fence (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow (Cu. Yd.)
		CLAY			REINF. CONCRETE									
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.						
1 40	-	0 40	0 45	0 65	0 90	1 20	-	-	-	-	35 00	-	0 20	
1 60	0 52	0 36	-	-	-	-	-	-	-	-	35 00	-	0 25	
1 75	0 45	-	-	-	-	-	-	-	0 20	-	-	14 50	0 25	
1 30	0 45	0 40	0 45	-	0 80	1 00	1 50	-	0 16	-	35 00	30 00	0 40	
1 40	-	0 80	0 35	0 55	-	-	-	-	-	-	30 00	10 00	0 23	
1 25	-	0 30	0 35	0 55	-	-	-	-	-	-	30 00	10 00	0 25	
1 35	-	0 30	0 35	0 55	-	-	-	-	-	-	31 00	11 40	0 23	
1 25	0 35	0 30	0 35	0 55	0 50	-	-	-	0 30	-	30 00	20 00	0 25	
1 25	0 45	0 28	0 33	0 53	0 65	1 00	-	-	0 20	-	25 00	40 00	0 20	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	15 00	0 20	
1 55	0 45	0 35	0 40	0 65	0 75	1 00	-	-	0 15	-	40 00	12 70	0 40	
1 70	0 40	-	0 40	0 50	0 70	-	1 50	-	-	-	33 00	-	0 25	
1 70	0 35	-	0 40	-	0 80	1 25	-	2 50	0 15	-	40 00	20 00	0 25	
2 10	0 45	0 35	0 40	-	0 75	-	1 50	2 25	0 15	-	40 00	18 00	0 30	



## REGISTRY OF MOTOR VEHICLES

The statistics for the year 1932 show decreases in the various classes of applications handled, running from approximately 3% in commercial vehicles to 9% in passenger vehicles, and nearly 30% in the examinations of new operators; but the net decrease in applications of all kinds is approximately only 5%. This slight net reduction enables the Registry to operate with a smaller staff of temporary clerks during the vacation and emergency periods. However, that does not materially affect the amount of work done, because the insurance cancellations have increased nearly 30%, and the public continues to make extensive use of the files of the Registry.

There was a noticeable decrease also in the number of court abstracts received, which affected the revenue received from fines, — the decrease doubtless being due to the reduction in registered motor vehicles and in the number of licensed operators on the highways.

The regular activities of the Registrar of Motor Vehicles in matters of highway safety were continued as in former years. Special attention was given to this safety work during the Saturday and Sunday week-ends and holiday periods. There was the usual cordial cooperation rendered by the various safety committees, the police and other officials charged with safeguarding the public.

Dr. Charles S. Slocombe, who had been appointed as Expert Assistant to the Registrar, completed on May 31, 1932, his study of the problem of reducing loss and damage, injury and death resulting from the use and operation of motor vehicles. The Registry plans to continue to keep certain records regarding accidents which tend to reveal the so-called "repeaters". This special class of offenders will be given either cautionary advice or disciplinary treatment, according to their records.

A few of the outstanding figures for the year, together with a comparison of the previous year, follow:—

	1931	1932
Motor Vehicle certificates of registration issued	1,009,876	923,570
Licenses to operate issued	1,024,304	1,014,635
Examinations of applicants for licenses	112,763	81,036
Licenses and registrations revoked and suspended	58,306	73,511
Licenses revoked for driving under influence of liquor	5,535	4,824
Total number of applications handled	2,115,193	2,018,238
Gross receipts from fees	\$6,430,015.98	\$6,142,129.98

### REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a 9.08% decrease in passenger registrations, a 3.45% decrease in commercial registrations, and motor cycle registrations dropping again to an abnormal decrease of approximately 45% over the previous year.

	1905	1915	1925	1929	1931	1932
Passenger cars	4,889	90,580	663,858	905,636	890,228	809,358
Commercial vehicles	—	12,053	100,480	113,268	116,580	112,551
Motor cycles	553	9,520	10,333	6,168	3,068	1,661
Totals	5,442	112,153	774,671	1,025,072	1,009,876	923,570

### EXAMINATIONS FOR LICENSES

The system of examining prospective operators of motor vehicles was not changed in any respect during the year 1932, the appointment system being continued and the examination consisting of the usual demonstra-

tion on the highways, a reading test, an eye test, and a test of the applicant as to his knowledge of the motor vehicle law. The number of persons examined decreased noticeably at the fifty-five examining points in the State where examinations were given with the following results:—

	1931	1932
Operators passed . . . . .	87,950	68,328
Operators unfit . . . . .	15,519	8,735
Restriction removal, passed . . . . .	8,306	3,873
Restriction removal, unfit . . . . .	934	444
"Competency" passed . . . . .	699	560
"Competency" unfit . . . . .	58	29
Total examinations . . . . .	113,466	81,969

#### BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles are able to render practically the same service to the public that is rendered at the main office at Boston, except as to information from the records. Each branch office serves as a headquarters for the district in which it is located, both as to distribution of number plates and licenses, and law enforcement.

The following table gives approximate figures showing the distribution of applications received at the branch offices and at the central office at Commonwealth Pier, Boston:—

#### APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Total
Boston:					
Counter . . . . .	208,000	—	149,000	68,000	425,000
Mail . . . . .	160,000	—	444,000	12,000	616,000
Examination . . . . .	—	27,000	—	4,000	31,000
Pittsfield . . . . .	23,000	2,000	17,000	5,000	47,000
Springfield . . . . .	58,000	5,500	51,000	14,000	128,500
Greenfield . . . . .	12,000	1,000	9,000	3,000	25,000
Northampton . . . . .	10,000	1,000	7,000	3,000	21,000
Worcester . . . . .	52,000	5,000	46,000	13,000	116,000
Fitchburg . . . . .	17,000	1,000	13,000	4,000	35,000
Framingham . . . . .	20,000	2,000	10,000	4,500	36,500
Lawrence . . . . .	31,000	3,500	28,000	7,500	70,000
Lowell . . . . .	25,000	3,000	21,000	5,500	54,500
Fall River . . . . .	21,000	3,500	20,000	5,000	49,500
New Bedford . . . . .	21,000	2,000	24,000	5,500	52,500
Lynn . . . . .	58,000	6,500	45,000	14,000	123,500
Quincy . . . . .	31,000	6,000	30,000	8,500	75,500
Brockton . . . . .	40,000	3,000	30,000	11,000	84,000
Hyannis . . . . .	10,000	1,500	6,000	2,000	19,500
Nantucket <sup>1</sup> . . . . .	500	—	—	—	500
Oak Bluffs <sup>1</sup> . . . . .	2,000	—	—	—	2,000
Totals . . . . .	799,500 <sup>3</sup>	73,500	950,000	189,500 <sup>2</sup>	2,012,500

A new branch office was opened at Northampton on December 7, 1931, this office being classified as a sub-office in the Springfield District.

#### COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures give an approximate idea of the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

<sup>1</sup> Licenses and miscellaneous applications included in counter figures.

<sup>2</sup> This figure includes approximately 120,000 number plate reissues.

<sup>3</sup> Does not include reissues (see Miscellaneous).



*Notices of Cancellation of Insurance Policies Received and Intents to Revoke Mailed*

	1931	1932
(a) For non-payment of premiums . . . . .	85,298	112,994
(b) For other reasons . . . . .	20,918	17,334
	<hr/>	<hr/>
Total . . . . .	106,216	130,328
Revocations . . . . .	35,105	46,166
Sets of number plates returned . . . . .	93,279	106,793

It is interesting to note that the receipt of 93,000 notices of cancellation from insurance companies required the mailing of the same number of notices of intent to revoke; that 37,328 notices of cancellation were received from finance companies; that 15,000 of these cases were adjusted by the filing of certificates by a new company; that 63,000 cancellations were adjusted by the filing of reinstatement notices from the same company; 6,000 by the surrender of registration plates prior to the effective date of cancellation; and 46,166 by the revocation of the plates and certificates. In connection with the surrender of the number plates it was necessary to send notices of the return of 106,793 plates to the various insurance companies covering the registrations involved.

Particular attention should be directed to the fact that of the 46,166 revocations only about 19,666 persons returned their plates and certificates promptly upon receiving notice from this office. The return of approximately 20,000 more sets of plates and certificates was secured through the efforts of the police departments; approximately 2,500 sets of plates and certificates were secured through the efforts of the examiners and inspectors of the Registry, leaving approximately 4,000 sets of plates not returned, although the registrations involved had been revoked and the insurance cancelled. Special attention is directed to this approximate number of 4,000 sets of plates not returned because this number represents a reduction of over 50% as last year 10,000 sets were not located and in previous years a greater number. This substantial improvement in the situation with regard to securing the return of credentials which have been revoked was due largely to a change in the system of following up revocation notices after cancellation of insurance and also to the efforts of inspectors and examiners of the Registry who personally secured plates not voluntarily returned or which the police were unable to locate. Practically all of these revocations were due to non-payment of premium cancellation notices.

#### AIRCRAFT

The statistics of the Aviation Section show an increase of approximately one hundred licensed pilots and a slight increase in the number of airplanes, notwithstanding which increase there were fewer suspensions and revocations of licenses and rights, and court prosecutions than in the previous year which is doubtless due to the knowledge that the aviation law is being strictly enforced.

It is to be noted, however, that there has been a decided increase in the number of personal injury and fatal accidents which exceeds in percentage the increase in pilots. The reason for this is not definitely known but it is hoped that two new regulations with the effect of law, which are proposed for promulgation in the fiscal year 1933, will have a tendency to reduce such accidents another year.

The blueprints of all the airports in the State have been rechecked by the Engineering Department and brought up to date. Additional surveys have been made and contour lines placed on all maps.

The investigation work shows a slight increase and it is interesting to note that the State has been divided into three aviation districts with an inspector covering each district, in order to permit the section to



continue its strict supervision of this new industry and enforcement of the law for the protection of all concerned, including the public at large, whether or not they use aircraft and including the flying personnel.

The following statistics summarize the work of this comparatively new but growing industry.

	1931	1932
Pilots' licenses issued	31	17
Airplanes registered	49	37
Pilots' license fees received, including examination fees	\$248	\$140
Airplane registration fees received	\$687	\$411
Duplicates issued	6	4
Certified copies issued	1	0
Duplicate fees received	\$ 6	\$ 4
Fees received for certified copies	\$ 1	0
Pilots examined for licenses and amendments	22	11
Aircraft examined for registrations, permits and repairs	436	470
Pilots' permits issued	358	476
Aircraft permits issued	298	323
Suspensions and revocations of licenses, registrations and rights to fly	37	34
Court prosecutions for violations of aircraft laws	6	5
Surveys of fields for airports	10	5
Recheck surveys of fields for airports	24	10
Flying fields approved	0	1
Flying fields disapproved	0	2
Investigations made by aircraft inspectors	763	821
Rulings made by Registrar	0	1
Airplane accidents:—		
Crack-ups	69	57
Non-fatals	12	21
Fatals	3	8
Persons injured	31	38
Persons killed	4	11
Planes damaged	67	67
Planes washed out	18	19
Caused by motor failure	20	17
Structural failure	8	6
Improper operation and other reasons	56	63
Ground accidents:—		
Crack-ups	15	10
Non-fatals	3	3
Fatals	1	0
Persons injured	3	3
Persons killed	1	0
Planes damaged	21	13

#### INSPECTION OF MOTOR VEHICLE EQUIPMENT

The third periodic inspection of the safety equipment of all motor vehicles registered in the commonwealth was held during the year 1932. The work was carried on by a permanent organization of Official Inspection Stations designated by the Registrar. Most of these stations have now been functioning for a period of three years and performed the work honestly and efficiently.

The results of the inspections confirmed the conclusions reached by former experience: that one inspection per year cannot be expected to secure the desired results. When business and other conditions warrant, it is to be hoped that two inspections per year can be conducted.

During the year approximately 783,000 cars were inspected. The result may be summarized as follows:



Total number of cars inspected . . . . .	783,000
Total O. K. without repair or adjustment . . . . .	407,000—52%
Total requiring replacement or adjustment . . . . .	375,800—48%

Repairs or adjustments on the 375,800 vehicles requiring correction of defects in equipment were as follows:

Brakes and lights . . . . .	109,600—14%
Lights only . . . . .	203,500—26%
Brakes only . . . . .	39,150— 5%
Miscellaneous (horn, etc.) . . . . .	23,490— 3%

### *School Bus Inspections*

The first school bus inspection required by chapter 271 of the Acts of 1932, was held during the week of October 31, 1932. Eight hundred and three motor vehicles used for the transportation of school children were examined and tested by inspectors of this department at 39 designated examining points. Because of the provisions of the law, complete compliance with its equipment requirements cannot be insisted upon until the termination of all transportation contracts existing on August 26, 1932. In every case, however, brakes, lights, windshield wiper, etc., were required to be in proper condition and the vehicle generally in a safe condition.

### *Brakes, Lights and Overloads*

Sixteen men were regularly assigned to equipment work. Besides their duties in connection with the periodic inspections of motor vehicles and school buses, these men did considerable road work in enforcing equipment requirements. 2,497 vehicles were reported for defective brakes; 15,182 for defective lights. 473 registrations were revoked because of dangerously defective equipment. In addition 391 owners were sent warning notices because of overloading and 44 registrations were revoked for this cause. Equipment inspectors also reported 2,761 cases of improper operation for action by the Registrar and 1,270 cases of violation of laws and regulations regarding equipment, dimensions of vehicles, etc.

### *Headlamps and Rear Lamps*

The Registrar approved two new headlamps during 1932 and nine new tail lamps. Extension of approval was granted to cover one new type of headlamp of a make already approved. The new approvals granted mark a departure from customary headlamp design in that the left and right headlamp are not similar and the beam pattern is not symmetrical.

Cars equipped with the new lamps have the usual high and low beam controlled by a light switch, and in addition, a third beam, called the "passing beam," which is a combination of the two, in which the left beam is tilted down, the right remaining in the high position, illuminating the right hand edge of the road. The lenses, also, are different in each headlamp, being designed to bend the beam slightly to the right, the purpose being to eliminate to some extent the possibility of glaring rays being emitted by this lamp in such a direction as to cause discomfort to approaching drivers.

### **MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS**

Deaths caused by motor vehicles in 1932 numbered 768, a decrease of twenty-five or 3.1 per cent as compared with the record of the previous year. The record of classified fatalities, injuries and collisions in the years 1931 and 1932 is as follows:—

*Motor Vehicle Accidents to Persons*

	Persons Killed		Persons Injured	
	1931	1932	1931	1932
Pedestrians by autos . . . . .	434	426	15,499	15,793
Pedestrians by motor cycles . . . . .	3	2	27	26
Pedestrians near street cars . . . . .	9	11	59	24
Occupants of autos . . . . .	281	277	31,142	30,186
Occupants of autos at railroad crossings . . . . .	22	16	38	24
Occupants of motor cycles . . . . .	14	9	458	240
Bicycle Riders . . . . .	20	12	822	848
Occupants horse-drawn vehicles . . . . .	2	5	279	279
Coasters on sleds . . . . .	7	8	434	148
Coasters on wheels . . . . .	1	2	79	90
Totals . . . . .	793	768	48,837	47,658

	Children Killed		Children Injured	
	1931	1932	1931	1932
Boys . . . . .	138	112	7,886	7,441
Girls . . . . .	61	34	4,159	4,136
Totals . . . . .	199	146	12,045	11,577

*Number of Collisions*

	1931	1932
Collision with pedestrian . . . . .	15,169	15,672
Collision with automobile . . . . .	19,629	20,168
Collision with horse-drawn vehicle . . . . .	287	300
Collision with railroad train . . . . .	31	23
Collision with street car . . . . .	360	297
Collision with fixed object . . . . .	1,846	1,887
Collision with bicycle . . . . .	809	873
Non-Collision (overturn) . . . . .	746	714
Collision with motor cycle . . . . .	502	303
Collision with sled . . . . .	383	120
Collision with animal . . . . .	85	101
Coaster on wheels . . . . .	—	82
Totals . . . . .	39,847	40,640
In the daytime . . . . .	25,018	25,394
After dark . . . . .	14,829	15,246
Totals . . . . .	39,847	40,640

## ACCIDENT REPORT LETTERS

As provided by section 26, chapter 90, General Laws every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received in 1932 was 48,864 as compared with 44,994 received in 1931. Under the requirements of section 29, chapter 90, General Laws, 19,859 similar reports of accidents were received from Police Departments throughout the State in 1932 as against 19,824 received in 1931. In addition, in connection with this reporting of accidents by operators, during the fiscal year 1931 there were received 15,882 letters and complaints reporting faulty operating. During the year 1932, these letters and complaints numbered 14,769.



# COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor-Cycles Registered	Total Regis- trations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Sus- pensions and Revo- cations	For Operat- ing Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,793	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,373	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824

## INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, head light violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. In the following tabulation it should be noted that the work of the inspectors includes a substantial increase in the number of accidents investigated.

It should be noted that the slight decrease in accidents, together with the lessening of work incident to the decreased registration and examination of new operators, has enabled our inspectors to increase substantially the number of formal investigations and reports made during the year, which situation is particularly desirable because as it becomes possible to investigate more and more all accidents, discipline of operators can be more properly administered and authorities be placed in a better position to remedy the situation by reason of the greater number of accidents so investigated.

### Classification of Reports

	1931	1932
Accidents, fatal . . . . .	746	748
Accidents, non-fatal . . . . .	5,853	5,816
General reputation . . . . .	4,437	5,943
Miscellaneous . . . . .	7,879	11,764
<b>Totals . . . . .</b>	<b>18,915</b>	<b>24,271</b>
Complaints filed . . . . .	21,206	14,976
Garages inspected . . . . .	5,911	5,471
Headlights and other violations reported . . . . .	50,269	21,036
Prosecutions conducted . . . . .	831	752
Amount of fines . . . . .	\$35,815	\$26,175

## REVOCATIONS AND SUSPENSIONS

	1931	1932
Licenses suspended . . . . .	17,018	15,315
Licenses revoked . . . . .	3,880	3,466
Rights suspended . . . . .	5,236	4,651
Certificates suspended . . . . .	8	0
Certificates revoked . . . . .	35,577	48,417
Certificates and licenses suspended . . . . .	21	22
Certificates and licenses revoked . . . . .	1,882	1,435
Certificates revoked and rights suspended . . . . .	173	123
Rights in Massachusetts suspended . . . . .	46	82
<b>Totals . . . . .</b>	<b>63,841</b>	<b>73,511</b>
Resulting from investigations . . . . .	19,466	17,411
Resulting from Court convictions . . . . .	9,277	8,196
Resulting from Police complaints . . . . .	1,627	1,411
Resulting from Judges' complaints . . . . .	35	21
Resulting from State Police complaints . . . . .	229	210
Resulting from Insurance cancellations . . . . .	33,207	46,262
<b>Totals . . . . .</b>	<b>63,841</b>	<b>73,511</b>

*Character of Offences*

	1931	1932
Reckless and endangering . . . . .	2,084	1,845
Liquor convictions . . . . .	4,613	3,899
Going away after accidents . . . . .	384	335
Without authority . . . . .	822	831
Racing . . . . .	0	0
Improper person . . . . .	5,967	5,562
Improper person, liquor . . . . .	922	925
Two overspeeds . . . . .	172	34
Three overspeeds . . . . .	12	4
Improper operation . . . . .	13,548	9,436
Insurance cancellations . . . . .	33,207	46,262
Insurance convictions . . . . .	351	375
Improper equipment, miscellaneous . . . . .	307	138
Improper equipment, lights . . . . .	191	166
Improper equipment, brakes . . . . .	400	415
Failure to have stickers . . . . .	0	2,157
Fatal accidents . . . . .	780	728
Other offenses . . . . .	81	399
<b>Totals . . . . .</b>	<b>63,841</b>	<b>73,511</b>
Formal hearings . . . . .	7,325	7,188

Court recommendations adopted:—	1931	1932
Liquor . . . . .	0	0
Reckless and endangering . . . . .	53	33
Going away after accidents . . . . .	17	6
Without authority . . . . .	1	2
Allowing improper person to operate . . . . .	0	1
<b>Totals . . . . .</b>	<b>71</b>	<b>42</b>
Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned . . . . .	4,113	3,805



## ANALYSIS OF COURT ABSTRACTS RECEIVED

	1931	1932
Number of courts forwarding abstracts . . . . .	95	95
Total abstracts received . . . . .	57,937	51,329
Number of abstracts recording convictions . . . . .	38,869	36,149

*Offences*

(Analysis of convictions, not including appeals)

Overspeeding . . . . .	12,890	11,366
Reckless . . . . .	26	14
Operating under the influence of liquor . . . . .	3,934	3,486
Using auto without authority . . . . .	1,068	1,194
Endangering lives . . . . .	2,220	2,253
Not stopping after causing injury . . . . .	662	591
Without license . . . . .	2,895	2,985
Without registration certificate . . . . .	902	802
Unregistered vehicle . . . . .	262	395
Improper display or no register number . . . . .	132	178
Refusing to stop on signal . . . . .	245	298
Unlighted lamps . . . . .	820	500
Operating within 8 feet of street car . . . . .	249	112
Violation of Metropolitan Park Rules . . . . .	710	442
Operating after suspension or revocation of license . . . . .	456	558
Larceny . . . . .	139	115
Manslaughter . . . . .	—	1
Miscellaneous . . . . .	2,328	2,007
Racing . . . . .	—	1
Operating after registration certificate revoked . . . . .	8	22
No rear light . . . . .	32	36
Not displaying lights . . . . .	50	—
Passing red light . . . . .	—	130
Improper lights . . . . .	534	356
Brakes not as required by law . . . . .	252	237
Violation of Insurance Law . . . . .	316	416
Not slowing down approaching pedestrian . . . . .	41	60
Not slowing down at intersecting way . . . . .	5,942	5,191
Violation of law of road . . . . .	1,723	2,312
Perjury—making false statements on license application, falsely impersonating or conspiring to obtain a license . . . . .	21	17
Allowing intoxicated person to operate . . . . .	3	5
Loaning a license to another . . . . .	2	8
Attempted larceny . . . . .	7	61
Totals . . . . .	38,869	36,149

## USED CAR SECTION

(Motor Vehicle Identification)

The following is a resume of the work accomplished by the Used Car Section which indexes, under the engine number, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen vehicle records. Dealer's and repairmen's plates and registration certificates are issued by this office.

The work of this section is summarized in the following tables:—

<i>Dealers</i>	1931	1932
Total number of first class dealers reporting . . . . .	1,255	1,240
Total number of second and third class dealers reporting . . . . .	501	468
Total number making reports to this office . . . . .	1,756	1,708

*Reports*

Approximate number of notices of intended sales received daily	230	243
Approximate number of dealers' reports received daily	1,085	823

*Motor Vehicles Stolen*

Number stolen in Boston	5,336	4,901
Number stolen in Massachusetts (including Boston)	10,720	6,211
Number reported stolen from various sources throughout the country, including Massachusetts	27,486	23,902
Number of motor vehicles recovered through information furnished by this office	355	423

*Engine and Serial Numbers*

Engine numbers assigned to cars	29	12
Certificates issued authorizing the replacement of engine numbers	701	456
Certificates issued authorizing the replacement of serial numbers	1,135	648
Certificates issued authorizing the replacement of both engine and serial numbers	18	19
Total number of authorized certificates issued	1,854	1,123

## EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Representatives of the department attended meetings of the Conference held in Washington, D. C., on May 5 and 6, 1932. Various problems of highway safety were discussed. Plans were completed for a meeting of a committee of Conference members with representatives of motor car manufacturers for the purpose of securing reasonably safe motor vehicles on our highways and to consider the entire question of the motor vehicle industry's responsibility in reducing accident hazards. (This meeting was held in Detroit on September 26, 1932.)

Registrar Morgan T. Ryan was appointed chairman of a committee to co-operate with the National Bureau of Casualty Underwriters in a National Safety Campaign.

Because of economic reasons, Massachusetts was not represented at the Conference meetings held in Washington on October 6, 1932. This was unfortunate because a successful vote was thereby made possible on a headlamp approval which would have been opposed by Massachusetts representatives.

## ANALYSIS OF RECEIPTS

The fees received for the year 1932, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:—

## Certificates of Registration:

Passenger cars (including taxicabs)	805,459	\$2,490,759 00
Commercial cars	112,551	1,238,269 83
Buses	3,899	84,329 60
Trailers	525	33,464 50
Motor cycles	1,661	2,219 50
Manufacturers or Dealers (including repairers)	3,454	10,350 00
Manufacturers or Dealers additional cars (including repairers)	19,914	59,683 50



## Licenses to operate:

Original licenses . . . . .	70,966	at	\$2.00	—	141,932 00
Renewal licenses . . . . .	943,669	at	2.00	—	1,887,338 00
Examinations . . . . .	63,793	at	2.00	127,586	
Re-examinations . . . . .	17,243	at	1.00	17,243	

Total examinations . . . . .	81,036				144,829 00
Copies of certificates and licenses furnished . . . . .	37,004	at	\$1.00		37,004 00
Duplicate number plates furnished . . . . .	7,146	at	1.00		7,146 00
Lens approval applications . . . . .	3	at	50.00		150 00
Miscellaneous receipts, process fees, etc. . . . .					4,655 05

Total amount of fees . . . . .					\$6,142,129 98
Motor vehicle fees rebated (deducted) . . . . .					73,062 22

Net fees . . . . .					\$6,069,067 76
Court fines received by the Treasurer and Receiver-General . . . . .					425,416 03

Total receipts credited Highway Fund account, 1932 . . . . . \$6,494,483 79

## EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1932 was \$1,508,235.97, which was 24.8 per cent of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$4,986,247.82 available for legislature appropriation for highway work.

## ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1932

*Payrolls*

## Personal services:

Regular payroll . . . . .	\$941,872 01	
Overtime payroll . . . . .	9,186 66	
Scrubwomen's payroll . . . . .	1,265 20	
		\$952,323 87

*Expenses*

## Supplies:

Books, maps, etc. . . . .	\$1,299 31	
Typewriter supplies . . . . .	1,578 45	
Adding machine repairs and supplies . . . . .	113 36	
Other supplies . . . . .	3,241 15	
Stationery . . . . .	22,561 86	
Typewriter repairs . . . . .	116 13	
Other repairs . . . . .	515 63	
		\$29,425 89

## Equipment and Furniture

Typewriter machines . . . . .	\$4,631 12	
Other machines . . . . .	2,141 63	
Desks . . . . .	380 47	
Bookcases, tables, etc. . . . .	318 21	
Filing cabinets . . . . .	1,860 27	
Chairs . . . . .	404 22	
Dictograph . . . . .	657 01	
Branches—Counter . . . . .	410 00	
Electric fans . . . . .	37 04	
Safe . . . . .	289 10	
Headlight and brake testing expense . . . . .	194 72	
Uniforms . . . . .	5,607 79	
		\$16,931 58

## Traveling expenses:

Officials . . . . .	\$2,258 45	
Employees . . . . .	39,173 88	
Aviation . . . . .	3,285 66	
Automobiles (owned by employes) . . . . .	74,055 33	
Automobiles (owned by State):		
Maintenance of 10 automobiles . . . . .	3,784 71	
Exchange of 2 automobiles . . . . .	1,464 00	
		<hr/>
		\$124,022 03

## Other services and expenses:

Expressage . . . . .	\$2,901 99	
Postage . . . . .	91,460 26	
Printing:		
Other reports . . . . .	1,962 05	
Other printing . . . . .	6,560 70	
Telephone . . . . .	7,860 34	
Premium on bonds of employees . . . . .	404 46	
Rent . . . . .	46,000 00	
Cleaning and janitor services . . . . .	1,361 00	
Rat extermination . . . . .	320 75	
Labor . . . . .	1,190 00	
Number plates . . . . .	175,578 65	
Direct mail lists . . . . .	8,700 00	
Sundries . . . . .	231 57	
Towels and Soap . . . . .	1,162 65	
Water and ice . . . . .	1,099 20	

## Branch offices:

Rent, telephone, lighting, heating . . . . .	28,749 22	
Labor and services . . . . .	5,781 41	
Supplies and express . . . . .	3,571 55	
		<hr/>

\$384,895 80

*Publicity for Safety Work*

Labels . . . . .	\$587 59	
Posters . . . . .	25 00	
Printing . . . . .	24 21	
		<hr/>

\$636 80

Total . . . . .		<hr/>	\$1,508,235 97
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*Summary*

Payrolls . . . . .	\$952,323 87	
Expenses . . . . .	555,275 30	
Publicity for Safety Work . . . . .	636 80	
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\$1,508,234 97

Special investigation of accident reduction . . . . .			\$10,104 71
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## RELATING TO WATERWAYS AND PUBLIC LANDS BOSTON HARBOR

### THE COMMONWEALTH FLATS AT SOUTH BOSTON

#### *Commonwealth Pier 5*

The usual work required for maintenance of the pier has been carried on during the year. Repairs have been made to gangways, to the sprinkler system, to roofing and flashing, to elevators and elevator machinery, to steam lines, to fender logs and floating fenders, and to the heating plant.



Under a contract made Dec. 1, 1931, with Buckley and Scott Utilities, Inc., oil burning equipment was installed at the heating plant. This work was completed May 5, 1932, at a contract cost of \$13,764.01.

On Dec. 15, 1931, a contract was made with the New England Structural Company for the construction of a movable gangway and operating track on the wharf platform at the outer end of Pier 5. The contract prices for this work were: for track furnished and set in place in wharf platform, including grouting and all incidental work, \$1.68 for each linear foot of track measured in place in the completed work; for furnishing and erecting complete in place the entire superstructure of the gangway, including all incidental work, the lump sum of \$3105. This work was completed Mar. 8, 1932, at a contract cost of \$4093.80.

A contract was made on Apr. 12, 1932, with James C. Grant for alterations to the settings of two horizontal return tubular boilers at the heating plant, at the following contract prices: for changes in the setting of the boilers, including new work and connections, \$2,500; for relining fronts of boilers, \$100. This work was completed May 5, 1932, at a contract cost of \$2502.50.

On June 7, 1932, a contract was made with A. A. Hersey & Son Co. for repairs to the timber work of the platform at Pier 5. The repairs consist of furnishing, driving, fitting and securing new fender piles and new foundation piles, rebolting piles, furnishing and securing new bracing, securing existing loose bracing and any other necessary timber work in the pile platform. This work was completed Nov. 29, 1932 at a cost of \$7,249.00.

A contract was made on July 26, 1932, with the National Gunitite Contracting Company, for furnishing labor, materials and equipment for reconstructing concrete beams and slabs at Commonwealth Pier 5 and for protecting portions of the steel structure of the Viaduct. This work was completed Sept. 12, 1932 at a contract cost of \$7,145.01.

On Aug. 9, 1932, a contract was made with the Caigan Engineering Equipment Company for rebuilding the settings of boilers No. 1 and No. 2 at the heating plant, constructing a pit in front of these boilers, at a contract price of \$3,654. This work was completed Nov. 17, 1932 at a contract cost of \$3,654.00.

The summary of shipping at the pier during 1932 shows a 32 per cent increase in outward tonnage over the previous year, but a 17% decrease on inward tonnage. The year 1931, however, despite the business depression, gave the largest tonnage the pier has handled. Passenger service has also increased during the year. Further details of the freight and passengers using the pier in 1932 are given in the following table:

**NUMBER OF TONS OF FREIGHT AND PASSENGERS HANDLED AT COMMONWEALTH  
PIER 5 DURING FISCAL YEAR ENDING NOVEMBER 30, 1932**

Name of SS. Line	No. of Ships	In Fgt. Del. R.R.	(Tons) Trucks	Total	Out Fgt. Del. R.R.	(Tons) Trucks	Total	Passengers		Total
								In	Out	
Am. Haw. SS. Co. .	96	42,520	96,322	138,842	7,442	27,472	34,914	-	-	-
Luckenbach SS Co. Inc.	73	5,369	48,625	53,994	3,807	12,725	16,532	-	-	-
Norton, Lilly & Co. .	57	815	10,928	11,743	563	3,464	4,027	-	-	-
White Star Line .	41	541	2,210	2,751	698	979	1,677	2,917	3,917	6,834
Canadian Nat. SS. Co..	112	-	-	-	-	28	28	5,280	5,859	11,139
Cosulich Line . .	11	11	-	11	23	39	62	-	3,547	3,547
Hamburg-Amer. Line .	5	-	-	-	-	-	-	168	502	670
North German Lloyd .	1	-	-	-	-	-	-	-	62	62
Norton Lilly & Co. (Foreign) . .	1	236	248	484	-	-	-	15	-	15
Fabre Line . .	1	-	-	-	-	-	-	-	289	289
Byron SS. Co. . .	6	-	-	-	-	-	-	-	785	785
Furness, Withy & Co. .	1	-	-	-	-	-	-	-	100	100
<b>TOTAL. . .</b>	<b>405</b>	<b>49,492</b>	<b>158,333</b>	<b>207,825</b>	<b>12,533</b>	<b>44,707</b>	<b>57,240</b>	<b>8,380</b>	<b>15,061</b>	<b>23,441</b>



### DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

During the year the seven sections in Storehouse No. 1 on E Street have been occupied by the Wiggin Terminals, Inc. In the Storehouse on D Street the Economy Grocery Stores Corporation continued through the spring the occupancy of section H under lease of May 24, 1929, and of section J under a permit from the Department.

Early in the year the Economy Grocery Stores Corporation asked to be allowed to buy from the Commonwealth the D Street Warehouse and began with the Department negotiations which went on for several months. Under agreements of May 10, 1932, and of June 7, 1932, approved by the Governor and Council on June 14, 1932, this building and land become the property of the Corporation upon the completion of the payment of \$300,000 to be made in ten annual payments, including interest each year upon the unpaid balance. The agreement provides that the Commonwealth may retain until Feb. 1, 1933, the use of section M of this warehouse and the use of section N until Apr. 1, 1933.

The sale of the D Street warehouse made necessary certain changes in the electric service to the storehouse on E Street.

On Oct. 4, 1932, a contract was made with the W. D. Smith Electric Company to install new equipment necessary to provide electric service from the mains in E Street at a contract price of \$625 for furnishing all labor, materials and equipment and installing such service complete. This work was completed Oct. 31, 1932, at a contract cost of \$625.

For better protection of the fire sprinkler system at the E Street Warehouse a motor driven compressor was furnished, installed and connected with piping to the sprinkler system. This work was done by the Grinnell Company at a contract cost of \$229.

### GRASELLI WHARF

Until early summer this property continued to be occupied by the Atlantic Radio and Marine Company, Inc., under a lease dated Oct. 1, 1930. In June the lessee was obliged to make an assignment to creditors and was unable to comply with the terms of its indenture. The property is now available for lease.

### THE COMMONWEALTH FLATS AT EAST BOSTON

#### *Aircraft Landing Field — Boston Airport*

The greater part of the area reclaimed by the Commonwealth at East Boston is now occupied by the City of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the City approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. Negotiations are now in progress for the lease to the City of two additional parcels, one northeasterly of the areas included under leases of 1928 and 1930, and the other southeasterly of that leased in 1930.

The use of these areas by the City is, however, subject to certain rights of occupancy and use granted by previous agreements to the Federal Government. The lease to the War Department under date of June 30, 1922, contains an option for annual renewal to June 30, 1932. A supplementary agreement under date of Dec. 27, 1926, extended this option to June 30, 1937. To the Navy Department the lease of June 16, 1924, gives the option of continuing by annual renewals the use of a certain area to June 30, 1932.

### RECLAMATION OF FLATS

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abey-



ance since 1923. Between that year and Nov. 30, 1932, approximately 2,567,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1932, approximately 31,500 cubic yards were dumped upon flats northerly of Governor's Island. The Commonwealth has reclaimed about 150 acres of land at East Boston.

Under licenses granted in 1930 and 1931, for the building of bulkheads, dredging and filling, the City has reclaimed for the extension of the Airport, an area of approximately 140 acres.

#### COMMONWEALTH PIER 1, EAST BOSTON

The work of renewing fender piles, splicing foundation piles, replacing girder caps, wales, fender capping and deck planking in the platforms of the pier, under contract of Oct. 27, 1931, with Michael Solimando was completed Jan. 15, 1932, at a contract cost of \$2,714.92.

During the year the east and west docks of this pier have been used by the Eastern S. S. Lines, Inc., for tying up steamers not in service.

#### EAST BOSTON — ABANDONED HULKS

Under authority of Chapter 465 of the Acts of 1931, Extra-Session, the Department has carried on during the year the removal of hulks of dismantled vessels grounded and abandoned years ago along the East Boston waterfront. The appropriation of \$65,000 made by said act has been expended under the following contracts:

On Dec. 2, 1931, a contract was made with the Blakeslee Rollins Corporation for removing from tidewater the hulk of the steamer "Coyote" lying on flats on the northerly side of Apple Island at East Boston and for placing the wreck above high water back of the bulkhead on the South side of the Reserved Channel at South Boston, for the lump sum of \$6,700.

After floating this wreck the contractor found the hulk of very heavy construction of large timber planking strongly bolted and with an unusual amount of metal. The difficulty of breaking up this material after its removal from tide water appeared so great that after disposing of some of the lighter timbers at South Boston the contractor asked to be allowed to sink the remainder of the hulk at sea and offered a concession of \$1,000 upon the contract price if such disposal was authorized. The "Coyote" was accordingly sunk at sea on Jan. 11, 1932, in accordance with the direction of the U. S. Engineers. The contract cost of the removal and disposal of the wreck of the "Coyote" was \$5,700.

A contract was made on Dec. 29, 1931, with the New England Maintenance Co., Inc., for the removal from tide water of several hulks adjacent to the corner of Border and Condor Sts., East Boston, on properties of the Boston Port Development Company and the depositing of the material removed on the fill over the bulkhead at the Reserved Channel, South Boston, for the lump sum of \$11,000. A part of the material removed was placed upon the upland at East Boston. In February additional work under the terms of this contract was authorized to include the removal of hulks and wrecks lying in part on property of the George E. McQuesten Co., at a price of \$400, and of hulks uncovered at Meridian and Condor Streets during the work, at a price of \$2,600. All the work was completed July 15, 1932, at a contract cost of \$14,000.

On Jan. 12, 1932, a contract was made with A. A. Hersey and Son Company to remove several hulks from tide water at property of Frederick H. Viaux at Condor Street, East Boston. The contract price for the removal and disposal of these hulks was the lump sum of \$8,570. This work was completed May 21, 1932, at a contract cost of \$8,570.

A contract was made Feb. 9, 1932, with the Merritt-Chapman & Scott Corporation for the removal of hulks or wrecks from Chelsea Creek on property of Jessie D. Wright at Condor Street, East Boston, for the lump sum of \$8,800. This work was completed Apr. 23, 1932, at a contract cost of \$8,800.



On Mar. 15, 1932, a contract was made with the New England Maintenance Company, Inc., for the removal of hulks or wrecks from property of the Boston Port Development Company at Jeffries Point, at the following contract prices: for removal and disposal of wrecks on premises at Marginal Street adjacent to property of the International Glue Company, the lump sum of \$3,000; for removal and disposal of wrecks on premises at Marginal Street adjacent to McDonald's Wharf, the lump sum of \$900. This work was completed June 28, 1932, at a contract cost of \$3,900.

In order to give by this work as much relief to unemployment as possible, in accordance with the intention of said Chapter 465, additional labor was hired by the Department to break up the timbers and salvage the metal from the hulks removed from tide water and placed upon the upland by the contractors.

In addition to the work done by the Commonwealth, certain owners of flats at East Boston removed at their own expense hulks lying at their property. Such work was done by the George McQuesten Company, the Boston and Lockport Block Company, the Bay State Dredging and Contracting Company, W. H. Ellis and Son Company, the Boston Elevated Railway and Bertelsen and Petersen.

Under the provisions of Section 3 of said Chapter 465, the expense incurred in the removal of wrecks was to be a lien upon the premises from which they were taken. This section was later repealed by Chapter 115 of the Acts of 1932, approved Mar. 28, 1932.

#### BOSTON INNER HARBOR — DREDGING

On June 14, 1932, a contract was made with the Bay State Dredging and Contracting Company for dredging two areas in Boston Harbor, as follows: An area approximately 900 feet long and 400 feet wide in the vicinity of Boston & Albany Railroad Pier 2 at East Boston, to a depth of 35 feet at mean low water; an area approximately 1500 feet long and 400 feet wide in the vicinity of Pier 1 of the New York, New Haven and Hartford Railroad at South Boston, to a depth of 25 feet at mean low water. The contract price for this work was: for dredging and disposing of dredged material 37 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Oct. 29, 1932, at a contract cost of \$33,850.56.

#### TENEAN CREEK DREDGING

Hearing was held Jan. 27, 1932 upon a petition of the Dorchester Board of Trade, and others, for dredging the channel in Tenean Creek to a depth of 12 feet at mean low water from the main ship channel in Neponset River to the berth at property of E. L. & W. H. Cutter.

A contract was made on June 14, 1932, with the Bay State Dredging and Contracting Company for dredging a channel approximately 800 feet long and 60 feet wide to a depth of 12 feet at mean low water, in Tenean Creek, Dorchester, at the following contract prices: for dredging and disposing of the dredged material 48 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Aug. 3, 1932, at a contract cost of \$5,388.48.

#### HULL SEA WALLS

The work of placing concrete footing under and in front of about 245 linear feet of existing sea wall, the building of about 55 linear feet of new sea wall, at Stony Beach, and the placing of concrete footing under and in front of 175 feet of wall at Pemberton Point, under contract of Nov. 10, 1931, with Bradford Weston, was completed Jan. 18, 1932, at a contract cost of \$2,929.94.

#### WINTHROP HARBOR, WINTHROP

The work of removing boulders from the basin of the Winthrop Yacht



Club under contract of Nov. 10, 1931, with the Trimount Dredging Company was completed Mar. 30, 1932, at a contract cost of \$946.00.

### SURVEYS

During the year resurveys have been made of wharf and shore lines along portions of the Mystic River in Everett and Medford, and of Island End River in Everett and Chelsea. Hydrographic surveys have been made in Weymouth Fore River, Quincy and Weymouth, from Quincy Point Bridge upstream about three-quarters of a mile, and in Town River and Quincy Bay at the Squantum and Wollaston Yacht Clubs.

### RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$75,000 was made during 1932 with the following condition:—

“provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$22,500 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Allens Harbor, Harwich; Briggs Harbor, Scituate; Falmouth Shore Protection, Falmouth; Harwich Shore Protection, Harwich; Herring River, Harwich; Hyannis Harbor, Barnstable; Marshfield Sea Walls, Marshfield; Plymouth Harbor, Plymouth; Warren's Cove, Plymouth; West Chop Shore, Tisbury; Witchmere Harbor, Harwich.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Allens Harbor, Harwich; Briggs Harbor, Scituate; Herring River, Harwich; Plymouth Harbor, Plymouth; Warren's Cove, Plymouth; and Witchmere Harbor, Harwich.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works and in the tables of the Appendix accompanying the present report. These reports show localities, character of work, appropriations and expenditures by the Commonwealth, and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1932 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, follows:

#### ALLENS HARBOR, HARWICH

The work of extending the existing timber fence, placing riprap and back filling and additional riprap for further protection of an existing fence, under contract of Nov. 24, 1931, with George W. Starbuck, was completed Jan. 19, 1932, at a contract cost of \$1,792.05.

During the storms of March the sea lifted a section about 125 feet long of the fence built in 1928, throwing it out of alignment and threatening to break through the intervening beach and open a cut to the east of the jetty. Under a letter contract with George W. Starbuck the fence was rebuilt and riprap replaced at a cost of \$1,343.23.



The timber jetties built in 1926 at the entrance to this harbor, were constructed of untreated timber. Soon afterward the marine borer (*teredo navalis*) appeared in these waters and began to perforate the structures. As a result the jetties are now badly damaged and should be replaced with heavy stone riprap or steel sheet piling. The cost of such replacement is estimated at \$12,000 or \$15,000 depending upon the type of construction. At present material is moving through the jetties into the channel at a rate that will soon cause shoaling to an amount that will prevent even boats of shallow draft from entering the harbor.

Amount expended during the year, \$3,910.84. Total expenditure to Dec. 1, 1932, \$38,707.80.

#### CAPE COD CANAL LANDING PIER

The War Department of the United States, in accordance with the request of the Department, under the provisions of Ch. 441 of the Acts of 1931, granted a permit on Dec. 15, 1931, for the construction at Bourne Neck of the landing pier in the Cape Cod Canal.

In April the County Commissioners of Barnstable County made the necessary taking of land for the roadway leading to the site of the pier. The Department on Apr. 26, 1932, made a taking of the pier site and the area between mean high and low water required for the construction of the pier and for the dredging of berths and turning basin.

A contract was made on Apr. 26, 1932, with the Merritt-Chapman & Scott Corporation for the construction of a landing pier in the town of Bourne, including the dredging of a berth, approach channels, a turning basin and the construction of mooring dolphins and appurtenances, at unit prices for the construction work and at the following prices for dredging: for dredging berth, approach channel and turning basin and disposing of dredged material in solid fill portion of pier, 22 cents for each cubic yard measured in place; for dredging berth, approach channels, turning basin and cable trench and disposing of dredged material away from the site of the work, 20½ cents for each cubic yard measured in place; for removing and disposing of boulders \$15 for each cubic yard.

The type of pier designed for the Cape Cod Canal and approved by the U. S. War Department consists of a steel and concrete solid fill pier 600 ft. long and 75 ft. wide located at the westerly end of the Canal at Buzzards Bay and parallel to the centre line of the Canal. In addition, provision has been made for a turning basin with dolphins for turning and tying up vessels in Buzzards Bay adjacent to the westerly end of the main pier. This turning basin will accommodate a vessel 500 feet long.

Amount expended during the year, \$170,893.32. Total expenditure to Dec. 1, 1932, \$170,893.32.

#### FALMOUTH SHORE PROTECTION

Hearing was held on Jan. 27, 1932, on the petition of the Selectmen of Falmouth for protection of the shore of Vineyard Sound along the road from Falmouth Height to Menauhant.

On May 24, 1932, a contract was made with Sidney W. Lawrence for constructing about 350 linear feet of timber bulkheads, nine timber jetties and the placing of about 630 tons of stone riprap and chips on the Menauhant Shore in Falmouth. The contract prices were: for each creosoted yellow pine pile furnished and driven in the completed work, \$4.50; for each untreated yellow pine pile furnished and driven in the completed work, \$2.00; for each thousand feet board measure, of creosoted yellow pine lumber furnished, driven and set in place, \$86; for each ton of riprap and chips furnished and set in place in the completed work \$2.50. This work was completed Aug. 24, 1932, at a contract cost of \$5,324.17. Toward this cost a contribution of \$3,100 was made by the Town of Falmouth.

On account of the low contract prices for this work the Department was able to increase the length of shore protected to 464 feet. The work, since its completion, has been subjected to several severe storms and is, apparently, proving effective against erosion.



Amount expended during the year, \$6,075.33. Total expenditure to Dec. 1, 1932, \$76,743.04.

#### GREEN HARBOR, MARSHFIELD

A survey in the spring of the outer portion of the entrance channel revealed a small shoal forming between the outer ends of the two stone jetties at the entrance to the river, narrowing the channel and obstructing the passage of boats.

A contract was made on May 31, 1932, with the Bay State Dredging and Contracting Company for dredging a channel 75 feet wide on the bottom and 6 feet deep at mean low water through a shoal at the entrance to Green Harbor, at the following contract prices: for dredging and disposing of the dredged material, \$1.12 per cubic yard, scow measurement; for removing and disposing of boulders \$15 per cubic yard. This work was completed June 17, 1932, at a contract cost of \$3,696.00.

The present jetties at the outlet to Green Harbor are, evidently, not long enough to prevent the movement of sand around the ends of the structures and into the channel. To maintain in the harbor entrance a channel depth of 6 feet or more at mean low water will require the extension of both jetties to deeper water. It is probable that additional dredging in the channel entrance will be needed in 1933 on account of the rapid movement of material around the outer ends of these jetties.

Amount expended during the year, \$6,956.21. Total expenditure to Dec. 1, 1932, \$165,469.37.

#### GREEN HILL, HULL

In September a petition was received from residents of Hull asking for repairs and additions to the sea wall at the foot of Green Hill. An inspection showed a section of wall slightly undermined for a distance of about 75 feet and eight of the spur jetties broken.

On Oct. 25, 1932, a contract was made with Thomas Whalen & Sons, Inc., for constructing 8 concrete spur jetties and placing a concrete footing in front of a portion of the sea wall between Gun Rock and Green Hill. The contract price for this work is \$8.15 for each cubic yard of concrete in place in the completed work, including all excavation, backfilling and incidental work. This construction is now in progress.

Amount expended during the year, \$618.79. Total expenditure to Dec. 1, 1932, \$78,877.92.

#### HARWICH SHORE PROTECTION

In accordance with plans and recommendations made last year for the protection of this shore a contract was made on Dec. 15, 1931, with Joseph W. Nickerson for the construction of four stone jetties at West Harwich Beach at a contract price for furnishing and placing heavy stone riprap and granite chips in the jetty, of \$2.59 for each ton of 2000 pounds. This work was completed Feb. 19, 1932, at a contract cost of \$4,266.82. Toward this cost a contribution of \$2,500 was made by the Town of Harwich.

On Nov. 9, 1932, a contract was made with Sidney W. Lawrence to build a stone spur jetty 130 feet long about two hundred feet easterly of Gray's Neck Road on the beach at West Harwich, at a contract price of \$3.12 for each ton of stone riprap furnished in place in the completed work.

Hearing was held Jan. 27, 1932, upon petition of the Selectmen of Harwich for building stone jetties along the shore at South Harwich.

In the spring it became necessary to strengthen the fence east of the easterly jetty at Herring River by the placing of stone riprap, and to deposit riprap at the northerly end of a stone jetty in West Harwich. The three projects were combined in plans and specifications and on May 3, 1932, a contract was made with Arthur K. Finney for the construction of five stone jetties at South Harwich, the placing of about one hundred tons of riprap in front of the timber bulkhead at the entrance to Herring



River, and the placing of about thirty tons of riprap at the northerly end of a stone jetty at West Harwich, at a contract price of \$3.33 for each ton of 2,000 pounds furnished and placed. This work was completed June 23, 1932, at a contract cost of \$3,556.97. Toward the cost of this improvement a contribution of \$2500 was made by the town of Harwich.

Under a letter contract of June 6, 1932, with Arthur K. Finney a stone jetty was built at property of Robert Bitzer near the Chatham-Harwich line. The work was completed July 5, 1932, at a contract cost of \$1,206.75. Toward the cost of this jetty a contribution of \$350 was made by Mr. Bitzer.

The work carried on for several years for the protection of the Harwich Shore is proving effective, but erosion continues to cause serious damage along a considerable part of the shore of Nantucket Sound where no such projects have been undertaken.

Amount expended during the year, \$10,583.36. Total expenditure to Dec. 1, 1932, \$162,781.62.

#### HYANNIS HARBOR, BARNSTABLE

Hearing was held Jan. 27, 1932, on petitions of the Selectmen of Barnstable for dredging in Lewis Bay.

At the time of hearing the town of Barnstable wished to provide a public landing place in Lewis Bay and was willing to spend \$13,000 in building a timber bulkhead, and to make a contribution toward the cost of dredging two areas in Lewis Bay, if excavated material could be placed back of the bulkhead to complete the construction of the landing. The town voted in March to appropriate \$21,750 for the bulkhead and dredging and in April the Selectmen asked the Department to undertake the entire improvement.

On June 28, 1932, a contract was made with Thomas Whalen & Sons, Inc., for furnishing all labor, equipment and materials for the construction of about 900 linear feet of creosoted timber bulkhead in Hyannis Harbor at a contract price of \$11.90 for each linear foot of bulkhead constructed in place. This work is now in progress.

A contract was made on Aug. 9, 1932, with the Saybrook Dredging Company for dredging three areas in Hyannis Harbor, two areas to a depth of 6 feet at mean low water and one area to a depth of 9 feet at mean low water, at the following contract prices: for dredging and disposing of excavated material on the marsh, flats and behind the bulkhead by the hydraulic process, or other means, including the construction of necessary dikes, sluices and spillways and incidental work, 18.89 cents for each cubic yard measured in place; for removing and disposing of boulders \$10 per cubic yard. This work is now in progress.

In connection with the building of the timber bulkhead certain drainage work not covered by the original contract became necessary.

On Oct. 4, 1932, a contract was made with Thomas Whalen and Sons, Inc., for furnishing and laying about 10 linear feet of 8-inch pipe, 200 linear feet of 10-inch pipe, 162 linear feet of 12-inch pipe and 110 feet of 15-inch pipe and the construction of four catch basins at the Town Landing east of Ocean Street at Hyannis. This work was completed Nov. 26, 1932, at a contract cost of \$821.50.

Amount expended during the year, \$11,247.56. Total expenditure to Dec. 1, 1932, \$78,052.29 in Lewis Bay and Hyannis Harbor.

#### LAGOON POND, OAK BLUFFS AND TISBURY

Hearing was held on Jan. 28, 1931, on a petition of the Selectmen of Oak Bluffs and of Tisbury for dredging a channel through a bar in Vineyard Haven Harbor at the outlet of Lagoon Pond.

An investigation made of conditions at the outlet of the pond convinced the Department that any channel dredged could be maintained only by the construction of a jetty on the easterly side to check the drift of material into the area excavated.

Before undertaking a project of this character the Board required the



towns to secure the necessary releases from the owners of property involved and to make contributions amounting to one-half the cost of the work.

The releases were filed in August, 1932, and two checks for \$6,750 each, were received from the towns of Oak Bluffs and Tisbury during the month.

On Aug. 23, 1932, a contract was made with Merritt-Chapman & Scott Corporation to dredge at the entrance to Lagoon Pond a channel 100 feet wide on the bottom and 6 feet deep at mean low water, and to construct a stone jetty about 450 feet long on the easterly side of said channel. The contract prices for this work are: for dredging and disposing of the dredged material on marsh and flats by the hydraulic process, including the construction of necessary dikes and sluices, thirty-five cents for each cubic yard measured in place; for removing and disposing of all boulders, \$25. for each cubic yard; for each ton of riprap or stone chips furnished and placed in the completed work, \$3.23. This work is now in progress.

Amount expended during the year, \$16,166.29. Total expenditure to Dec. 1, 1932, \$16,476.04.

#### LONG BEACH, ROCKPORT

While the building of the sea wall completed in 1931, was going on, it became evident that adequate protection would require the placing of filling back of the structure to an elevation a little below the top of the wall. The town of Rockport made a contribution of \$1,000 toward the cost of the work. Under a letter contract with George W. Nicoll Co., Inc., filling back of the sea wall was placed to an elevation two feet below the top of the structure at a contract cost of \$2,000.

Amount expended during year, \$9,390.57. Total expenditure to Dec. 1, 1932, \$52,516.31.

#### MARSHFIELD SHORE PROTECTION

Under the provisions of Chapter 407 of the Acts of 1931, the protection of the Marshfield shore has been continued during the year. The work of placing heavy stone riprap and stone chips to protect the bank, timber bulkhead and concrete sea wall at Brant Rock, east of Ocean Avenue and south of Shepard Street, under contract of Sept. 15, 1931, with Raymond A. Bergesson was completed Jan. 29, 1932, at a contract cost of \$29,096.75.

The sea wall built on the beach at Fieldston under contract of Sept. 15, 1931, with Louis B. Cardario and Sons was completed Dec. 23, 1931, at a contract cost of \$83,706.24.

After the building of the sea wall at Fieldston, filling was placed back of the structure under contract made Mar. 29, 1932, with Thomas Whalen and Sons, Inc., for furnishing all labor, equipment and materials for filling back of the concrete sea wall at Fieldston at a contract price of 27 cents for each cubic yard of material measured in place in the completed work. The filling back of the wall was completed June 14, 1932, at a contract cost of \$3,512.70.

The Selectmen asked in the spring for the construction of steps to give access to the beach over the sea wall at Fieldston, at approximately every third street terminating at the wall. On Mar. 29, 1932, a contract was made with Thomas Whalen & Sons, Inc., for the construction of rubble concrete steps with wrought iron railings over the concrete sea wall on the beach at Fieldston, at the following contract prices: for all rubble concrete measured in place in the completed work, including the furnishing of all material, labor and incidental work, \$6.22 for each cubic yard; for each set of wrought iron railing in place, including all material, labor and incidental work, \$95.00 for each set. This work was completed June 16, 1932, at a contract cost of \$4,764.56.

A contract was made Dec. 1, 1931, with Philip B. Oakman to build a concrete sea wall faced with riprap about 1100 feet long, with return walls



about 20 feet long, and to place riprap protection for a length of about 850 feet on the beach south of Brant Rock, at the following contract prices: for furnishing materials and constructing the concrete sea wall including excavation, backfill and all incidental work, \$7.65 for each cubic yard of concrete measured in place in the completed work; for furnishing and placing heavy stone riprap and chips against the sea wall and bank, including excavation and all incidental work, \$1.70 for each ton of 2000 pounds in place in the completed work. This work was completed May 14, 1932, at a contract cost of \$24,286.99.

While work upon this wall was in progress, a petition was received from the Selectmen asking that the structure be extended southerly from the U. S. Coast Guard Station for a distance of about 700 feet. The Department agreed to undertake the work, but, at the request of summer residents postponed action until the fall.

On Sept. 27, 1932, a contract was made with A. Piatelli and Company for constructing about 700 linear feet of concrete sea wall, with an opening for the taking of boats from the beach, at a location south of the U. S. Coast Guard Station at Brant Rock, at a contract price of \$6.65 per cubic yard of concrete, measured in place in the completed work, for furnishing material and constructing the concrete sea wall, including excavation, backfill and all incidental work. This work is now in progress.

Under the provisions of said Chapter 407 protection has been provided for the Marshfield shore from a point about one half mile northerly of Fieldston to a point at Brant Rock. For a half-mile beyond Brant Rock the shore is protected by a masonry wall constructed some years ago. Southerly from this wall for a distance of 1500 feet a new concrete sea wall has been built. Northerly of the entrance to Green Harbor riprap is being placed to prevent further erosion. When the work now in progress is completed, the shore of Marshfield would seem to be protected adequately for some years to come.

Amount expended during the year, \$84,547.84. Total expenditure to Dec. 1, 1932, \$214,973.29.

#### MENAMSHA INLET, CHILMARK AND GAY HEAD

The placing of 2,900 tons of stone riprap and chips and about 340 cubic yards of sand filling in three locations at Menamsha Inlet, under contract of Nov. 3, 1931, with the Merritt-Chapman and Scott Corporation was completed Feb. 26, 1932, at a contract cost of \$12,777.82.

Amount expended during the year, \$13,146.27. Total expenditure to Dec. 1, 1932, \$130,243.43.

#### NEW BEDFORD STATE PIER

The larger portion of this pier has been, since September, 1927, under lease to the Lampport Manufacturing Supply Company, Inc.

The lease provides for the use by the Company of a specified portion of the pier for a period of ten years beginning Sept. 1, 1927, at a rental of \$6,000 per year for the first five years, and of \$10,000 per year for the five years following. The Company agrees by the terms of the lease to provide reasonable facilities for vessels desiring to use the present unenclosed area of the pier for water-borne commerce, as well as reasonable accommodation for loading and unloading cargo. The charges made for such uses of the pier are to be those established by the Department, effective since July 15, 1925.

The pile platform built in 1931 on the northerly side of the pier has been operated during the year by the Department. Several steamship companies have used this part of the pier for docking vessels and for discharging cargoes, chiefly of cotton. Most of the cargo handled has been incoming freight, but one shipment of tire fabric consigned to Pacific Coast ports has been made from the pier.

On Mar. 8, 1932, a contract was made with Frank C. Taylor for furnish-



ing and placing floating fender logs and for securing them to the north side of the wooden wharf of the State Pier at New Bedford. The contract prices for this work were: for furnishing and placing each floating fender log 40 feet to 60 feet long, including all bolts and fastenings, \$4.50 per linear foot of fender measured in place in the completed work; for furnishing and placing each wrought iron chain 4 feet long, the lump sum of \$25. This work was completed Mar. 24, 1932, at a contract cost of \$1,276.94.

A contract was made on May 10, 1932, with the Gunitite Construction Company for furnishing labor, tools, equipment and material, and for reconstructing and repairing plaster walls on the shed at the State Pier at the following contract prices: for removing existing plaster wall on the south side of the wooden shed, and replacing said wall with new gunite wall, the lump sum of \$1,151; for removing existing plaster walls from the south side of the steel shed and at the southeast corner of the pier, and replacing said walls with new gunite walls, the lump sum of \$324; for placing new gunite surface one inch thick on the easterly face of the steel shed, the lump sum of \$995. This work was completed Aug. 23, 1932, at a contract cost of \$2,594.98.

By Chapter 273 of the Acts of 1932, the Department was authorized to build a shed on the extension of this pier, or a roof to cover said extension built under Chapter 460 of the Acts of 1931, Item 625. For the purpose an appropriation of \$7,000 was subsequently made.

On July 5, 1932, a contract was made with the McClintic-Marshall Corporation to construct a steel canopy approximately 260 feet long and 30 feet wide over a portion of the timber platform on the north side of the pier, at the lump sum price of \$5,319. This work was completed Sept. 2, 1932, at a contract cost of \$5,484.

A contract was made on Oct. 4, 1932, with W. Edward Howarth for furnishing and installing a lighting system at a contract price of \$619.51 for furnishing all labor, materials, and equipment and installing all electrical work. This work together with the installation of two additional lights and of replacements not included in the original contract, was completed Nov. 7, 1932, at a contract cost of \$679.51.

Minor repairs to the pier have been carried on as usual during the year.

Amount expended for operation, maintenance and improvement during the year, \$24,476.08.

Income during the year, \$14,460.09. Total expenditure for operation, maintenance and improvement to Dec. 1, 1932, \$124,393.49.

#### OAK BLUFFS SEA WALLS

The storm ending Nov. 10, 1932, resulted in minor damage to structures built by the Commonwealth in two locations along the shore of Oak Bluffs. A section of the sea wall about 65 feet long easterly of the entrance to Lake Anthony was undermined and overturned. The timber bulkhead at the Highlands was so battered for a distance of about 300 feet that the top moved forward causing openings which allowed the escape of a part of the back filling. Six of the supporting jetties of creosoted timber were entirely removed and a seventh badly damaged.

A letter contract was made on Nov. 28, 1932, with Arthur K. Finney for repairs and additions, to the timber bulkhead and jetties by the driving of oak piles and interlocking steel sheet piling.

On Nov. 29, 1932, a contract was made with the Merritt-Chapman & Scott Corporation for the removal of a broken section of the concrete sea wall southerly of the entrance to Lake Anthony, for the construction of a new section about 65 feet long and the furnishing and placing of about 150 tons of heavy riprap in front of the new wall and extending in front of the older portion of the concrete sea wall to the southerly stone jetty. The contract prices for this work are: for furnishing and constructing the section of sea wall, including excavation, back fill and all incidental work, \$13.00 for each cubic yard of concrete measured in place in the



completed work; for each ton of stone riprap furnished in place in the completed work, including all cleaning up and all incidental work, \$3.75. This work is now in progress.

Amount expended during the year, \$21.80. Total expenditure to Dec. 1, 1932, \$141,099.57.

#### COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$3,800 was made by the Legislature this year for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The work of making repairs to the canopy over Plymouth Rock and of placing copper over the roof was completed by the Beattie Corporation on Feb. 27, 1932, at a contract cost of \$1,179.39.

Complaints were received during the year concerning the condition of parts of the granolithic side walk and curbing where settlement had occurred. Investigation showed that no ballast was placed under the concrete when the walks were built and that the damage was caused by poor drainage. Minor repairs have been made during the year to sections where settlement has been most marked.

Amount expended during the year, \$4,248.44. Total expenditure to Dec. 1, 1932, \$44,649.41.

#### PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for the use of the Province Lands. One employee of the Department has been kept at work during the summer to maintain this park in proper condition.

#### SCITUATE HARBOR, SCITUATE

On Apr. 12, 1932, a contract was made with John J. Johnson for the removal from tide water of a wreck in the anchorage basin on the south side of Scituate Harbor, for the lump sum of \$146. This work was completed May 20, 1932.

Amount expended during the year, \$146. Total expenditure to Dec. 1, 1932, \$206,011.94.

#### SCITUATE SEA WALLS

Under the provisions of Chapter 424 of the Acts of 1931, protective work along the Scituate shore has been continued during the year.

##### *First Cliff*

A contract was made on Oct. 11, 1932, with Joseph F. Cavanagh for placing about 250 tons of stone riprap to protect the face of a portion of First Cliff, at a contract price of \$1.57 for each ton of stone riprap furnished in place. This work was completed Nov. 3, 1932, at a contract cost of \$587.97.

##### *Sand Hills*

A letter contract was made on July 5, 1932, with Thomas Whalen and Sons, Inc., for placing 800 tons of stone riprap upon the crest of the beach northerly of the north end of the sea wall.

Later in the summer the Selectmen asked for the construction of two ramps in front of openings left in the sea wall repaired in 1931.

On Sept. 6, 1932, a contract was made with George W. Starbuck for the construction of two rubble concrete ramps in front of two openings in the existing concrete sea wall at the Sand Hills, at a contract price of \$5.87 for each cubic yard of concrete measured in place in the completed work. This construction was finished Oct. 11, 1932, at a contract cost of \$522.37.

*Second Cliff*

On May 31, 1932, a contract was made with Thomas Whalen & Sons, Inc., for the placing of about 2,000 tons of stone riprap to protect the face of a portion of Second Cliff, at a contract price of \$1.64 for each ton of stone riprap or chips furnished in place in the completed work. This project was completed July 15, 1932, at a contract cost of \$4,445.54.

*Third Cliff*

The placing of 2000 tons of heavy stone riprap to protect the face of a portion of the bluff at Third Cliff, under contract of Aug. 25, 1931, with John P. Cavanagh, was completed Dec. 28, 1931, at a contract cost of \$5,205.54.

The greater part of the Scituate shore is now well protected from erosion by the sea, but more work will probably be needed in the near future at Second Cliff and northerly of the Sand Hills.

Amount expended for sea walls and other work of shore protection in Scituate during the year, \$17,326.96. Total expenditure to Dec. 1, 1932, \$401,623.43.

## TAUNTON RIVER, IMPROVEMENT BY FEDERAL GOVERNMENT

The Federal Government during the year has continued the dredging under the project providing for a channel 12 feet deep in Taunton River from Fall River to Weir Village, Taunton. The removal of ledge was in progress at the end of the fiscal year, and a new contract is to be made soon for completing the channel.

Several surveys have been made and borings taken in connection with the turning basin to be provided at Weir Village under the provisions of Chapter 405 of 1930, in accordance with the requirements of the Federal project. No definite location for this basin has yet been determined.

Amount expended during the year, \$960.22. Total expenditure to Dec. 1, 1932, \$31,561.95.

## WAQUOIT BAY, FALMOUTH AND MASHPEE

An inspection made in January of the inshore end of the jetty at the entrance to the bay found the timber work destroyed by fire and the beach washing away rapidly. To protect the breakwater a letter contract was made with John A. Davis for driving piles and placing concrete at the inshore end of the structure. This work was completed Mar. 14, 1932, at a contract cost of \$2,536.38.

During August an examination made of the jetty showed a continuing erosion so serious as to threaten the outlet channel. The immediate need appeared to be the extension of the jetty toward the shore in order to anchor the inshore end to the upland and the building of spur jetties at right angles to the shore in locations easterly of the breakwater.

On Aug. 30, 1932, a contract was made with Thomas Whalen and Sons, Inc., for the construction of about 100 linear feet of creosoted timber bulkhead, two creosoted timber jetties each about 25 feet long, and one creosoted timber jetty about 100 feet long on the easterly side of the entrance to Waquoit Bay, Mashpee. The contract prices for this work were: for each linear foot of creosoted yellow pine bulkhead furnished and driven in place, \$7.75; for each linear foot of creosoted yellow pine jetty, furnished and driven in place, \$7.75: This work was completed Nov. 28, 1932, at a contract cost of \$1,937.50.

The entrance to Waquoit Bay, after the completion of the work done this year, is reasonably safe, although the stone breakwater for a length of about 100 yards has settled to some extent. This is due to the deepening of the channel which has caused undermining of the stone and consequent shifting of material. The breakwater is not yet endangered but will need repairs during the coming year.

Amount expended during the year, \$4,759.38. Total expenditure to Dec. 1, 1932, \$98,073.78.



WEST CHOP, TISBURY

Hearing was held Feb. 24, 1932, upon a petition of the Selectmen of Tisbury for protective work at West Chop.

The best method for checking erosion at this beach appears to be the building of stone jetties projecting at right angles from sea walls already constructed. Toward the cost of these jetties a contribution of \$1,250 was made by the Town of Tisbury and of an equal amount by the property owners.

On Aug. 16, 1932, a contract was made with Joseph W. Nickerson for the construction of four stone jetties, at a contract price of \$4.19 per ton of 2000 pounds for furnishing and placing heavy stone riprap and granite chips in the jetties. This work is now in progress.

Amount expended during the year, \$3,721.75. Tctal expenditure to Dec. 1, 1932, \$3,721.75.

WESTPORT HARBOR, WESTPORT

The work of placing about 400 tons of stone riprap and chips in the stone jetty on the westerly side of the harbor, under contract of Nov. 3, 1931, with George W. Starbuck, was completed Dec. 17, 1931, at a contract cost of \$2,225.21.

While this work has put the jetty into good condition, the erosion of the shore northerly of the structure is washing material into the channel and causing shoaling. The most satisfactory way of checking this movement would be to build another short jetty to divert the current from the shore. This would probably help to remove some of the present shoaling as well as to arrest further deposit of material in the channel.

Amount expended during the year, \$2,431.19. Total expenditure to Dec. 1, 1932, \$21,928.88.

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Bcard of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Gcvernor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Sturbridge; Big Sandy Pond, Plymouth; Blackmore's Pond, Wareham; Blueberry Pond, Brewster; Crystal Lake, Newton; Dunham's Pond, Carver; Grass Pond, Harwich; Hallockville Pond, Hawley and Plainfield; Jordan Pond, Shrewsbury; Kendall Pond, Gardner; Lake George, Wales; Lake Mascuppic, Tyngsborough; Lake Nippinicket, Bridgewater; Lake Quinsigamond, Worcester and Shrewsbury; Lake Winthrop, Holliston; Laurel Lake, Lee and Lenox; Lea Mine Pond or Quassac Lake, Sturbridge; Monponsett Ponds, Halifax and Hanson; Musquashiat Pond, Scituate; Pentucket Pond, Georgetown; Round Pond, Plymouth; Silver Lake, Wilmington; Simon's Pcond or Lake Marguerite, Sandisfield; South Pond, Barnstable; Spy Pond, Arlington; Tyng's Pond, Dracut; Upper Goose Pond, Lee and Tyringham.

Surveys were made this year of the following great ponds:

*Lake Tashmoo, Tisbury*

Area of natural pond at time of survey	268.5	acres
Maximum depth	10.7	feet

*Pentucket Pond, Georgetown*

Area of pond at time of survey	96.25	acres
Area of natural pond	51.98	acres
Maximum depth	34.0	feet

*Black Pond, Taunton*

Area of Pond at time of survey . . . . .	12.48 acres
Area of natural pond . . . . .	10.62 acres
Maximum depth . . . . .	19.9 feet

*Cranberry Pond, West Stockbridge*

Area of natural pond at time of survey . . . . .	10.36 acres
Maximum depth . . . . .	22.7 feet

*Pine Pond, Brewster*

Area of natural pond at time of survey . . . . .	24.48 acres
Maximum depth . . . . .	22.4 feet

*Slough Pond, Brewster*

Area of natural pond at time of survey . . . . .	33.12 acres
Maximum depth . . . . .	22.9 feet

*Walker Pond, Brewster*

Area of pond at time of survey . . . . .	101.76 acres
Maximum depth . . . . .	9.9 feet

*Sam Hall Pond, Brewster*

Area of natural pond at time of survey . . . . .	13.54 acres
Maximum depth . . . . .	15.6 feet

*Faun Pond, Plymouth*

Area of natural pond at time of survey . . . . .	46.63 acres
Depth of Pond . . . . .	Not determined

*Tyings Pond or Muscuppic Lake, Dracut and Tyngsborough*

Area of pond at time of survey . . . . .	222.09 acres
Area of natural pond . . . . .	206.17 acres

Area of the natural pond is divided between the two towns as follows:

Dracut . . . . .	10.26 acres
Tyngsborough . . . . .	195.91 acres
Maximum depth . . . . .	28.5 feet

*Hampton Pond, Southampton and Westfield*

Area of pond at time of survey . . . . .	158.18 acres
Area of natural pond . . . . .	140.84 acres
Area of Pequot Island in pond . . . . .	0.61 acres

Area of the natural pond is divided between the two towns as follows:

Southampton . . . . .	51.92 acres
Westfield . . . . .	88.92 acres
Maximum depth . . . . .	31.4 feet

*Horse Pond, Westfield*

Area of pond at time of survey . . . . .	29.63 acres
Area of natural pond . . . . .	23.02 acres
Maximum depth . . . . .	10.6 feet

*Buck Pond, Westfield*

Area of natural pond at time of survey . . . . .	23.48 acres
Maximum depth . . . . .	22.3 feet



*Forrest Lake, Palmer*

Area of pond at time of survey . . . . .	56.37 acres
Area of natural pond . . . . .	41.33 acres
Maximum depth . . . . .	31.4 feet

*Pattaquatic Pond, Palmer*

Area of natural pond at time of survey . . . . .	20.43 acres
Maximum depth . . . . .	25.5 feet

*Kendall Pond, Gardner*

Area of natural pond at time of survey . . . . .	23.13 acres
Maximum depth . . . . .	39.3 feet

## ACCESS TO GREAT PONDS

During the year two petitions relative to access to great ponds have been received under the provisions of Chapter 453 of the Acts of 1923.

Public hearing before the joint board was held Jan. 20, 1932, upon a petition of ten citizens of the Commonwealth for the establishment of a right of way to Lake George or Wales Pond, in the town of Wales. A special report to the Legislature was made in December, 1932, stating:

"Upon consideration of all the evidence, the Board finds that, as both the State Highway and the Town way are adjacent to the shores of the pond at different locations, public convenience and necessity do not appear to require the establishment of a right of way for public access to Lake George."

On Mar. 3, 1932, the Board made a special report to the Legislature relative to the establishment of a right of way to Simon's Pond or Lake Marguerite in the town of Sandisfield. The report concludes:

"Upon consideration of all the evidence the Board finds that it appears that no right of way for public access to this pond exists and that public convenience and necessity do not require that such right of way be established."

A petition by ten citizens of the Commonwealth for the establishment of a right of way to Jordan Pond in the town of Shrewsbury, was presented to the Department on Nov. 10, 1932. A date for public hearing has been assigned but no further action taken.

## PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,810 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand, the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Ten acres of sand dunes have been covered with brush; 15,000 native pines on the sod have been transplanted and 400,000 seedlings of Scotch and Austrian pines planted. About one acre of bayberry has been planted.

The sum of \$196.15 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying areas on these lands.

Amount expended during the year, \$4,698.79. Total expenditure to Dec. 1, 1932, \$161,934.58.

STATE BOUNDARY LINES

During the year bound No. 37 on the Massachusetts-Rhode Island line was removed on account of new highway construction and a new bound No. 37 was reset 35.8 ft. east of the location of the old bound.

TOWN BOUNDARY LINES

During the year nine triangulation stations were established to redefine a portion of the Hamilton-Wenham town line.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$4,000.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by an order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation stations were determined and permanently marked on the ground and the geographical positions furnished to the Land Court:

- 26 Stations in Nantucket
- 4 Stations in Yarmouth
- 5 Stations in Harwich
- 8 Stations in Barnstable

Amount expended during the year, \$990.40.

LICENSES AND PERMITS

During the year 69 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River and 114 permits for miscellaneous purposes. The Department also approved 65 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859 - 1932, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1931</i>	<i>1932</i>	<i>Total</i>
Boston Harbor	\$1,518,899 47 <sup>1</sup>		
Streets Piers and Railroads		\$84 67	
Maintenance of Property		457 33	
Dredging and filling		30,835 24	
Special appropriation		64,932 46	\$1,615,209 17
Commonwealth Flats, East Boston	3,093,326 83 <sup>2</sup>	—	3,093,326 83

<sup>1</sup> Contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921 \$4,000 00  
By Bethlehem Ship Building Corporation in 1930 . . . . . 10,000 00  
<sup>2</sup> Appropriated by City of Boston in 1926 . . . . . 10,000 00



EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT — *Continued*

<i>Payments</i>	<i>To Nov. 30, 1931</i>	<i>1932</i>	<i>Total</i>
Commonwealth Flats, South Boston	4,892,123 69	—	4,892,123 69
Castle Island	740,353 71		
Dredging and filling		1,706 20	
Streets piers and railroads		145 00	742,204 91
Commonwealth Pier No. 5, South Boston:			
Construction	4,014,790 45	—	4,014,790 45
Maintenance	614,542 54	72,968 82	687,511 36
Dredging	22,050 36	—	22,050 36
Operation and Supervision	1,536,248 59	121,693 72	1,657,942 31
Commonwealth Pier No. 1, East Boston:			
Construction	1,199,703 23	—	1,199,703 23
Operation and supervision	112,425 89	7,821 80	120,247 69
Maintenance	15,547 05	4,370 10	19,917 15
Commonwealth Pier No. 6, South Boston:			
Construction	1,092,149 06	—	1,092,149 06
Maintenance	51,937 90	—	51,937 90
Dry Dock	3,169,651 15 <sup>3</sup>	—	3,169,651 15
Hayward Creek	385,979 61 <sup>4</sup>	—	385,979 61
Mystic River	428,897 17 <sup>5</sup>	735 78	429,632 95
Malden River	32,268 70 <sup>6</sup>	535 84	32,804 54
Chelsea Creek	60,561 88	—	60,561 88
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property of Commonwealth (in addition to maintenance items listed above)	344,805 04	19,339 76	364,144 80
	<u>\$23,379,475 42</u>	<u>\$325,626 72</u>	<u>\$23,705,102 14</u>

<sup>3</sup> Additional amount paid by State Treasurer from Development of the Port of Boston Loan Sinking Fund in settlement of claims 17,877 73

<sup>4</sup> Contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation 38,600 00

Paid by State Treasurer for land taking 3,725 27

<sup>5</sup> Contribution by Merrimac Chemical Company in 1920 15,000 00

in 1922 4,182 50

Contribution by Beacon Oil Company in 1920 50,000 00

<sup>6</sup> Expended by United States Government 31,000 00

Contribution by Standard Oil Company of New York in 1922 600 00

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1932, INCLUSIVE

<i>Locality and Character of Works</i>	<i>Contributions by Municipality or Others</i>	<i>Total Expenditure</i>
Cottage Park Channel, Winthrop, dredging	\$6,250 00	\$37,967 29
Dorchester, easterly shore, dredging and survey	1,000 00	210,742 60
Harbor View, dredging	—	146 00
Hingham Harbor, dredging	6,500 00	41,595 12
Houghs Neck, Quincy, dredging	7,500 00	46,088 31
Island End River, Everett, survey	—	264 10
Jeffries Point Channel, dredging		4,563 93
Mystic River (near Lawrence and Wiggin Wharf) dredging	—	5,927 70

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by	
	Municipality	Total
	or Others	Expenditure
Neponset River, dredging . . . . .	10,000 00	109,392 28
Old Harbor Cove, dredging . . . . .	—	10,520 48
Orient Heights Channel, dredging . . . . .	—	45,412 38
Pemberton Point, Hull breakwater . . . . .	60,000 00	90,520 98
Pleasant Park Yacht Club Channel dredging . . . . .	3,000 00	16,029 96
Point Allerton, Hull, sea wall . . . . .	50,000 00	75,127 05
Point Shirley, Winthrop . . . . .	—	3,713 37
Quincy Bay, dredging . . . . .	7,150 00	71,807 56
Shirley Gut, Boston and Winthrop, dredging . . . . .	—	2,110 96
South Boston, Southerly Shore, dredging . . . . .	—	129,542 08
Stony Beach, Hull, sea wall . . . . .	—	12,326 09
Town River, Quincy, survey and dredging . . . . .	16,050 00	57,663 25
Weir River, Hull, dredging . . . . .	45,000 00	205,336 48
Wessagussett Channel, dredging . . . . .	—	815 20
Weymouth Fore River, dredging . . . . .	8,250 00	70,077 49
Winthrop Harbor Channels, dredging . . . . .	17,192 00	73,984 22
	<hr/>	<hr/>
	\$237,892 00	\$1,321,674 88

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK FROM  
DECEMBER 1, 1931, TO NOVEMBER 30, 1932

<i>Location and Character of Work</i>	Contributions	Expenditures
Acushnet River, survey . . . . .	—	\$18 00
Allens Harbor, Harwich, timber fence, riprap and jetties . . . . .	—	3,910 84
Barnstable Harbor, Barnstable, dredging . . . . .	\$1,000 00	
Brant Rock, Marshfield, sea walls and riprap . . . . .	—	84,547 84
Cape Cod Canal Pier, Bourne, construction . . . . .	—	170,893 32
Cape Poge, Edgartown, survey . . . . .	—	133 05
Centerville River, Barnstable, removing stumps . . . . .	—	236 25
Chatham, survey . . . . .	—	852 62
Cohasset Harbor, Cohasset, dredging . . . . .	—	2,756 16
Cuttyhunk Harbor, survey . . . . .	—	334 67
Falmouth (Menauhant Shore), jetties bulkheads and riprap . . . . .	3,100 00	6,075 33
Geological Survey Trust Fund . . . . .	2,520 00	290 10
Great Ponds, survey . . . . .	—	6,992 79
Green Harbor, Marshfield, dredging . . . . .	—	6,956 21
Gun Rock Point, Hull, jetties and sea wall repairs . . . . .	—	618 79
Harwich Shore, near Chatham Line, stone jetty . . . . .	350 00	1,206 75
Herring River, Harwich, stone jetty and surveys . . . . .	—	645 01
Hyannis Harbor, Barnstable, bulkhead and dredging . . . . .	21,750 00	11,247 56
Improvement of Rivers and Harbors, general expenses . . . . .	—	8,405 07
Lagoon Pond, Tisbury and Oak Bluffs, dredging and stone jetty . . . . .	13,500 00	16,166 29
Lake Anthony, Oak Bluffs . . . . .	500 00	
Lake Tashmoo, Tisbury, survey . . . . .	—	30 64
Long Beach, Rockport, concrete sea wall . . . . .	—	9,390 57
Manchester Harbor, Manchester, survey . . . . .	—	13 55
Menamsha Creek, Chilmark, riprap and fill . . . . .	—	13,146 27



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contributions	Expenditures
New Bedford State Pier, Operation and Maintenance	—	10,828 29
New Bedford State Pier, Construction and Alterations	—	13,647 79
Oak Bluffs, sea wall repairs	—	21 80
Plymouth Harbor, survey	—	38 10
Plymouth State Property, maintenance	—	4,248 44
Province Lands, Provincetown, reclamation	—	4,698 79
Salisbury Beach, survey	—	1,667 16
Saugus River, Lynn and Saugus, survey	—	2,096 01
Scituate shore protection:		
First and Second Cliffs, Scituate, riprap	—	5,424 81
North Scituate, Surfside, sea wall and jetties	—	1,602 23
Sand Hills, Scituate, sea walls, jetties and concrete ramp	—	5,124 26
Humarock Beach, Scituate, sea wall and jetties	—	3,772 79
Third Cliff, Scituate, riprap	—	1,402 87
Scituate Harbor, Scituate, survey	—	146 00
South Harwich, stone jetty	2,500 00	3,701 31
Swampscott, survey	—	103 46
Taunton River, survey	—	960 22
Waquoit Bay, Falmouth, timber bulkhead and jetties	—	4 759 38
Warrens Cove, Plymouth, survey	—	192 49
Water Conservation	—	4,000 00
West Chop, Tisbury, stone jetties	2,500 00	3,721 75
West Harwich, Harwich, stone jetties	—	5,030 29
Westport Harbor, Westport, jetty repairs	—	2,431 19
Winthrop Shore, Winthrop, survey	—	24 52
Witchmere Harbor, Harwich, survey	—	135 67
	<hr/> \$47,720 00	<hr/> \$424,647 30

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1932, INCLUSIVE,  
FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE  
DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS  
(EXCEPTING BOSTON HARBOR)

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging	—	\$119,810 10
Allens Harbor, Harwich, shore protection dredging, riprap and jetties	\$12,427 50	38,707 80
Allens Pond, Dartmouth, survey	—	195 95
Angle Tree Monument, reservation	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, survey, dredging and stone breakwater	—	55,786 05
Barnstable Harbor, Barnstable, dredging	7,500 00	30,693 16
Bass River, Beverly, dredging	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, jetties dredging and survey	22,595 00	182,413 47
Beach Street, Scituate — See Scituate		
Beverly Harbor, Beverly, dredging	—	50,000 00 <sup>1</sup>
Brant Rock, Marshfield, shore protection	111,503 66	214 973 29

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Brewster, Skaket Inlet, survey	—	617 19
Bucks Creek, Chatham, jetties, survey and dredging	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey	—	166 11
Cape Cod Canal Pier, Bourne	—	170,893 32
Cape Poge, Edgartown, cut through beach, jetties and riprap	16,500 00	42,690 09
Cataumet Harbor — See Megansett Harbor		
Cedar Point, Scituate — See Scituate		
Centerville River, Barnstable, dredging	19,711 50	44,329 77
Chatham, riprap and surveys	10,500 00	20,665 81
Cohasset Harbor, Cohasset, breakwater and dredging	42,691 88	116,191 93
Concord River, Billerica, removing boulders	150 00	1,664 59
Connecticut River, investigation of navigation and surveys	—	8,878 96
Connecticut River, Agawam protective work	—	18,814 42
Connecticut River, Chicopee, survey, wall and riprap	640 00	25,789 02
Connecticut River, Hadley protective work, diversion wall and survey	5,000 00	118,740 95 <sup>2</sup>
Connecticut River, Hatfield, dikes and riprap	1,000 00	51,238 61
Connecticut River, Holyoke, dredging and protective work	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers	—	1,195 32
Connecticut River, Northampton, protective work	—	1,524 20
Connecticut River, Northfield, riprap	—	9,028 90
Connecticut River, South Hadley, wall	1,000 00	7,379 58
Connecticut River, Springfield, and West Springfield, protective work	—	12,510 08 <sup>3</sup>
Conservation of Waters, investigation	—	80,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs	13,183 38	83,243 85
Cuttyhunk Harbor, Gosnold, jetties and dredging	9,000 00	71,088 85
Deacons Pond Harbor — See Falmouth Inner Harbor		
Duxbury Bay and Harbor, dredging	27,000 00	92,653 35
East Bay, Osterville, jetties, dredging and removing scows	10,000 00	70,924 23
Edgartown Harbor, Edgartown, survey and cut in beach	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs	—	20,174 18
Essex County Beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33 <sup>4</sup>
Fall River Harbor, improvement	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap	22,210 04	70,667 71

<sup>1</sup> Expended by United States Government.<sup>2</sup> From 1888 inclusive.<sup>3</sup> From 1891 inclusive.<sup>4</sup> \$5,000.00 expended by U. S. Government.



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by		Total Expenditure
	Municipality or Others		
Falmouth Inner Harbor, dredging, jetties, wall and riprap	31,500 00		150,396 26
Falmouth, Menauhant Shore, bulkheads, jetties and riprap	3,100 00		6,075 33
First and Second Cliffs, Scituate — See Scituate			
Fresh Water Cove, Gloucester, dredging	3,300 00		17,477 53
Gay Head, survey	—		555 42
Geological Survey Trust Fund	2,520 00		290 10
Glades, North Scituate, See Scituate			
Gloucester Fish Pier	—		396 91
Gloucester, Western Avenue, sea wall	35,000 00		60,000 00.
Gloucester Harbor, Gloucester, dredging and removing ledges	15,000 00		148,786 71
Great Head, Winthrop — See Winthrop Shore			
Great Ponds, survey	—		25,333 34
Green Harbor, Marshfield, jetties, dredg- ing and survey	42,500 00		165,469 37
Gun Rock Point, Hull, breakwater and sea wall repairs	16,135 41		78,877 92
Harbor Cove, Gloucester, survey and dredg- ing	3,866 00		25,155 04
Harwich Shore, near Chatham Line, stone jetty	350 00		1,206 75
Herring Creek, Scituate, survey	—		253 76
Herring River, Harwich, jetties, dredging and riprap	36,100 00		132,029 97
Herring River, Wellfleet, dikes and ditches	10,000 00		34,509 38
Hoosac River, North Adams, excavation and survey	—		21,271 67
Housatonic River, Sheffield, survey	—		2,011 29
Hull, sea wall and jetties	8,882 06		38,485 08
Humarock Beach, Scituate — See Scituate			
Hyannis Harbor, bulkhead and dredging	21,750 00		11,247 56
Hyannisport, Barnstable, survey and breakwater	2,500 00		65,017 76
Improvement of Rivers and Harbors, gen- eral expenses	—		47,920 59
Ipswich River, Ipswich, jetty, wall, riprap and dredging	3,800 00		59,079 55
Kings Beach, Swampscott, removal of ob- struction	—		166 41
Lagoon Pond, Tisbury and Oak Bluffs dredging and jetty	13,500 00		16,476 04
Lake Anthony, Oak Bluffs, jetties and dredging	15,500 00		97,411 51
Lake Quannapowitt, Wakefield, investiga- tion	—		345 32
Lake Tashmoo, Tisbury, survey	—		432 88
Lewis Bay, Barnstable, survey and dredg- ing	18,809 29		66,804 73
Little Harbor, Cohasset, survey	500 00		1,476 77
Little Harbor, Marblehead, dredging	2,500 00		11,166 16
Little River, Gloucester, survey	—		862 93
Lobster Cove, Gloucester, dredging	4,500 00		61,603 36
Long Beach, Rockport, sea wall	26,000 00		52,516 31
Lynn Harbor, Lynn, anchorage basin, sur- vey and dredging	5,200 00		121,609 22

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Lynn Harbor and Saugus River, dredging and filling	37,500 00	163,431 53
Manchester Harbor, Manchester, survey, jetties and dredging	83,000 00	189,707 59
Mattapoissett Harbor, survey	—	255 48
Megansett Harbor, Bourne & Falmouth, dredging	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, jetties, dredging, sea wall and riprap	2,700 00	130,243 43
Merrimack River, investigation	—	1,208 50
Mill River, Gloucester, survey and dredging	300 00	24,899 59
Mitchells River, Chatham, survey and dredging	6,000 00	23,113 92
Monument Beach, Bourne, survey	—	326 40
Nahant, survey	—	82 15
Namequoit River and Pleasant Bay, dredging	5,500 00	28,529 62
Nantucket, survey of Sesachacha Pond	—	110 66
Nantucket Harbor, dredging	5,000 00	58,982 52
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, pier shed and dredging	13,446 74* <sup>5</sup>	550,419 42
New Bedford State Pier, operation and maintenance	—	68,107 40
Newburyport Harbor, survey	—	115 97
Nobscusset Harbor, Dennis, breakwater, dredging and riprap	1,950 00	41,385 22
North River, Marshfield, survey and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	704 52
North Scituate—See Scituate		
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties	52,500 00	141,099 57
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging	1,000 00	15,295 89
Orleans, survey	—	104 18
Palmers Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging and repairing jetties	1,200 00	198,010 32
Paskamansett River, Dartmouth, dredging and jetty	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey	—	904 80
Pleasant Bay, Chatham, dredging	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	92,794 55* <sup>6</sup>	324,565 02
Plymouth Memorial Park, maintenance	—	44,649 41
Point Shirley, Winthrop — See Winthrop Shore		

<sup>5</sup> Paid by Surety Company.<sup>6</sup> \$57,000.00 expended under direction of U. S. Government.



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Poponessett Bay, Barnstable and Mashpee, dredging	—	46,252 33
Powow River, Amesbury, dredging channel and riprapping wall	—	502 94
Province Lands, Provincetown, reclamation	—	161,934 58
Provincetown Harbor, shore protection	75 00	28,730 81
Quamquisset Harbor, Falmouth, survey	—	710 31
Quansett Harbor, Orleans, survey and dredging	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier	—	275 00
Revere, stone breakwater	—	60,397 93
Rock Harbor, Orleans, dredging	2,400 00	20,832 51
Rockport Harbor, Rockport, dredging and removing rocks	4,750 00	32,897 46
Salem Harbor, Salem, survey	—	1,509 92
Salisbury Beach, survey	—	3,064 22
Salt Pond River, Eastham, survey	—	210 11
Salters Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills, Scituate—See Scituate		
Sandwich Harbor, Sandwich, dredging channel, riprap and jetties	—	80,579 84
Saugus River, Lynn & Saugus, survey and dredging	2,000 00	22,941 18
Scituate, shore protection	37,500 00	
Beach Street, Scituate, wall and breakwater	17,333 52	34,782 50
Cedar Point wall and breakwater	21,446 64	41,298 70
First & Second Cliffs, Scituate, wall and riprap	2,797 92	19,473 77
Glades, North Scituate, filling and riprap	13,250 78	30,737 96
Humarock Beach, Scituate, survey, wall and jetties	37,816 38	83,545 51
North Scituate, Surfside, spur (and) jetties	2,194 68	29,831 42
Sand Hills, Scituate, wall and jetties	4,511 26	33,792 06
Third Cliff, Scituate, riprap and survey	75,193 10	127,778 27
General surveys at Scituate	—	383 24
Scituate Harbor, dredging and surveys	53,300 00	206,011 94
Scorton Harbor, Sandwich, jetty and dredging	500 00	17,774 34
Seapuit River, Barnstable, dredging	13,000 00	25,088 55
Sesuit Harbor, Dennis, jetty	1,500 00	24,555 10
Shirley Gut, survey	—	97 05
Sippican Harbor, Marion, survey	—	615 66
Smith's Cove, Gloucester, survey and dredging	3,875 00	13,466 16
South Harwich, stone jetties and riprap	2,500 00	3,701 31
South River, Marshfield and Scituate, survey	—	724 85
South River, Salem, dredging	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	203 42
Stage Harbor, Chatham, dikes and survey	—	10,803 01
Swampscott, survey	—	103 46
Taunton, Brockton waterway, investigation	—	5,278 18
Taunton River, survey and dredging	42,500 00	31,561 95
Taunton River, Boston Harbor Canal, survey	—	9,932 75

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Third Cliff Scituate—See Scituate		
Taunton River, Massachusetts Bay Canal, survey	—	11,786 71
Vineyard Haven Harbor, repairing sea wall	2,380 50	11,945 01
Vineyard Haven Harbor, Tisbury, break- water and dredging	1,000 00	45,518 25
Waquoit Bay, Falmouth, Breakwater, wall bulkheads and dredging	17,500 00	98,073 78
Wareham River, Wareham, survey and dredging	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and sur- vey	9,713 98	25,292 35
Watch Hill, Chatham, survey and riprap	—	14,968 75
Water Conservation—See Conservation of Water		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable and Osterville dredg- ing, jetties and riprap	16,128 07	114,517 57
West Chop, Tisbury, stone jetties	2,500 00	3,721 75
West Falmouth Harbor, Falmouth, sur- veys, dredging and breakwater	11,473 75	63,520 95
West Harwich, shore protection	6,000 00	25,843 59
Westfield River, Westfield, survey and jetties	—	6,037 29
Westport Harbor, Westport, jetty exten- sion and repairs	—	21,928 88
Wild Harbor, Falmouth, jetty and dredging	15,000 00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work	40,500 00	97,582 04
Witchmere Harbor, Harwich, jetties and dredging	3,500 00	63,551 21
Woods Hole, Great Harbor, Falmouth, dredging	1,500 00	6,968 86
Wrecks, removal from tide water	—	20,283 69
Yarmouthport Harbor, survey	7,000 00	95,977 37
<b>Totals</b>	<b>1,536,164 63</b>	<b>7,967,132 39</b>

## FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1932, are shown in the following tables furnished the Chief of Engineers, U. S. Army:—



TABLE NO. 1.—*Localities at Present under Improvement*(Compiled from the Annual Report of the Chief of Engineers, U. S. Army,  
for the fiscal year ending June 30, 1932.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor . . . . .	\$500,900 00	\$500,900 00
Gloucester Harbor . . . . .	545,575 63	548,183 00
Beverly Harbor . . . . .	246,690 41	246,690 41 <sup>1</sup>
Salem Harbor . . . . .	107,956 57	107,956 57
Lynn Harbor . . . . .	585,007 91	646,937 00
Mystic River . . . . .	306,684 84	306,684 84
Boston Harbor . . . . .	13,489,955 55	13,527,362 58
Dorchester Bay and Neponset River . . . . .	128,176 44	128,176 44
Weymouth Fore River . . . . .	641,150 00	641,150 00 <sup>2</sup>
Weymouth Back River . . . . .	27,000 00	27,000 00
Scituate Harbor . . . . .	126,590 98	126,590 98
Plymouth Harbor . . . . .	421,184 84	421,184 80 <sup>3</sup>
Cape Cod Canal . . . . .	12,148,541 47	12,187,555 45
Operating and Care, Cape Cod Canal . . . . .	1,070,477 21	1,089,000 00
Provincetown Harbor . . . . .	348,062 72	348,062 72
Pollock Rip Shoals . . . . .	1,328,416 26	1,331,402 01
Cross Rip Shoals, Nantucket Sound . . . . .	25,507 31	27,000 00
Harbor of Refuge at Nantucket . . . . .	694,582 83	694,582 83
New Bedford and Fairhaven Harbor . . . . .	1,229,413 90	1,232,546 85
Fall River Harbor . . . . .	681,863 01	689,614 47
Taunton River . . . . .	273,989 37	314,329 19
	<hr/>	<hr/>
	\$34,927,727 21	\$35,142,910 14

TABLE NO. 2.—*Localities in Which Work is Not Now in Progress*(Compiled from data furnished by the United States Treasury  
Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River . . . . .	\$404,466 72	\$404,466 72
Malden River . . . . .	149,950 00	149,950 00 <sup>4</sup>
Sandy Bay, Cape Ann, Harbor of Refuge . . . . .	1,941,478 00	1,941,478 00
Bass River . . . . .	20,150 34	20,150 41
Buzzard's Bay Harbor . . . . .	2,500 00	2,500 00
Canapitset Channel . . . . .	5,312 54	9,800 00
Chatham Harbor . . . . .	12,171 36	13,732 79
Cohasset Harbor . . . . .	10,000 00	10,000 00
Duxbury Harbor . . . . .	37,000 00	37,000 00
East Dennis Breakwater . . . . .	7 57	1,500 00
Edgartown Harbor . . . . .	25,000 00	25,000 00
Essex River . . . . .	30,000 00	30,000 00
Hingham Harbor . . . . .	38,316 58	39,000 00
Hyannis Harbor . . . . .	221,267 07	221,267 07
Ipswich River . . . . .	5,617 91	7,500 00
Kingston Harbor . . . . .	8,940 09	10,000 00
Little Harbor, Woods Hole . . . . .	18,000 00	18,000 00
Manchester Harbor . . . . .	23,985 57	24,300 00
Marblehead Harbor . . . . .	833 43	1,900 00
Martha's Vineyard Harbor . . . . .	7,000 00	7,000 00
Powow River . . . . .	50,940 72	51,000 00
Rockport Harbor . . . . .	91,229 25	91,232 57
Town River . . . . .	37,577 41	37,577 41
Vineyard Haven Harbor . . . . .	55,387 35	60,000 00
Wareham Harbor . . . . .	95,997 30	96,236 00
Wellfleet Harbor . . . . .	11,365 57	16,000 00

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00
Total	<u>\$3,660,094 69</u>	<u>\$3,682,590 97</u>

## RECAPITULATION

	<i>Expenditures</i>	<i>Appropriations</i>
Total of Table No. 1.	\$34,927,727 21	\$35,142,910 14
Total of Table No. 2.	3,660,094 69	3,682,590 97
	<u>\$38,587,821 90</u>	<u>\$38,825,501 11</u>

<sup>1</sup> Exclusive of \$100,000 contributed funds.<sup>2</sup> Exclusive of \$100,000 contributed funds.<sup>3</sup> Exclusive of \$108,400 contributed funds.<sup>4</sup> Exclusive of \$62,000 contributed funds.

## EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1932

(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Boston Harbor proper <sup>1</sup>	\$13,489,955 55	\$13,527,362 58
Mystic River	306,684 84	306,684 84
	<u>\$13,796,640 39</u>	<u>\$13,834,047 42</u>

<sup>1</sup> Including Chelsea Creek.



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
269	Lagoon Pond, Oak Bluffs and Tisbury,—dredging and jetty . . .	Merritt-Chapman & Scott Corporation . . . . .	Aug. 23, 1932
288	Third Cliff, Scituate,—riprap . . .	John P. Cavanagh . . . . .	Aug. 25, 1931
290	Marshfield,—sea wall at Fieldston . .	Louis B. Cadario and Sons . . . .	Sept. 15, 1931
291	Brant Rock, Marshfield,—riprap . . .	Raymond A. Bergesson . . . . .	Sept. 15, 1931
295	Commonwealth Pier 1,—East Boston	Michael Solimando . . . . .	Oct. 27, 1931
296	Westport Harbor,—repairs to stone jetty . . . . .	George W. Starbuck . . . . .	Nov. 3, 1931
297	Scituate Sea Walls, Sand Hills and Scituate Harbor . . . . .	Thomas Joseph McCue . . . . .	Oct. 27, 1931
298	Menamsha Inlet, Chilmark and Gay Head,—protective work . . . . .	Merritt-Chapman & Scott Corporation . . . . .	Nov. 3, 1931
299	Hull,—sea walls at Stony Beach and Pemberton,—repairs and rebuilding . . . . .	Bradford Weston . . . . .	Nov. 10, 1931
300	Winthrop Harbor,—removal of boulders from basin of Winthrop Yacht Club . . . . .	Trimount Dredging Company . . .	Nov. 10, 1931

## AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1932

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1932	Total paid to Nov. 30, 1932	Estimated Amount of Contract
In progress	For dredging and disposing of dredged material on marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 35 cents for each cubic yard measured in place. For removing and disposing of all boulders \$25 for each cubic yard. For each ton of riprap or stone chips furnished and placed in completed work, \$3.23.	\$15,117 38	15,117 38	\$23,770 —
Completed Dec. 28, 1931	For furnishing each ton of stone riprap and depositing it in place, including all cleaning up and incidental work, \$2.24.	1,361 46	5,205 54	4,480 —
Completed Dec. 23, 1931	For furnishing materials and constructing concrete sea wall and jetties, \$7.48 per cubic yard of concrete measured in completed work. For furnishing materials and constructing concrete apron and wing walls, the lump sum of \$1,250 for completed work.	22,264 28	83,706 24	69,894 —
Completed Jan. 29, 1932	For furnishing and placing heavy stone riprap, \$3 per ton of 2,000 pounds in place in completed work. For each ton of riprap and chips furnished and placed in completed work, including removal of remains of old timber bulkheads, storing of material and other incidental work, \$2.00	17,995 75	29,096 75	14,000 —
Completed Jan. 15, 1932	Unit prices.	2,714 92	2,714 92	2,705 40
Completed Dec. 17, 1931	For each ton of riprap or stone chips furnished and placed in completed work, \$5.40.	2,225 21	2,225 21	2,160 —
Completed Dec. 19, 1931	For furnishing material and constructing concrete top, face, footing and jetties, \$8.70 for each cubic yard of concrete measured in completed work. For furnishing $\frac{3}{4}$ " twisted steel reinforcing rods, 4 cents per pound.	3,053 29	8,455 01	8,050 —
Completed Feb. 26, 1932	For furnishing material and constructing and repairing light wall, \$8.70 for each cubic yard of concrete measured in completed work. For each ton of riprap or stone chips furnished and placed in the completed work, \$4.19.	12,777 82	12,777 82	12,451 —
Completed Jan. 18, 1932	For furnishing and placing 340 cubic yards of filling, the lump sum of \$300. For furnishing all labor and materials and constructing new concrete sea wall, \$10 for each cubic yard of concrete measured in completed work.	2,929 94	2,929 94	2,290 —
Completed Mar. 30, 1932	For furnishing labor and materials and constructing concrete footings under and in front of existing walls, \$12 for each cubic yard of concrete measured in the completed work. For towing equipment and crew to site of work and returning after completion of work, the lump sum of \$95. For rental of floating plant and all necessary equipment including crew and all incidental expenses \$89 for each day of eight hours the equipment is used on the work.	946 —	946 —	829 —



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
301	Allens Harbor, Harwich,—timber fence and riprap . . . . .	George W. Starbuck . . . . .	Nov. 24, 1931
302	Marshfield,—concrete sea wall and riprap south of Brant Rock	Philip B. Oakman . . . . .	Dec. 1, 1931
303	Commonwealth Pier 5, South Boston,—installation of oil burning equipment in heating plant . .	Buckley & Scott Utilities, Inc. . .	Dec. 1, 1931
304	Removal of hulk of SS "Coyote" from tide water at Apple Island, Boston . . . . .	Blakeslee Rollins Corporation . .	Dec. 2, 1931
305	Commonwealth Pier 5, movable gangway . . . . .	New England Structural Company .	Dec. 15, 1931
306	West Harwich Shore,—stone jetties	Joseph W. Nickerson . . . . .	Dec. 15, 1931
307	Scituate Harbor,—removal of wreck	John J. Johnson . . . . .	Apr. 12, 1932
308	Removal of hulks adjacent to Border and Condor Sts., East Boston	New England Maintenance Co., Inc. . . . .	Dec. 29, 1931
309	Removal of hulks from property of Frederick H. Viaux, Condor St., East Boston	A. A. Hersey & Son Company . .	Feb. 12, 1932
310	Removal of hulks from property of Jessie D. Wright, Condor St., East Boston	Merritt-Chapman & Scott Corporation . . . . .	Feb. 9, 1932
311	New Bedford State Pier, floating fender logs . . . . .	Frank C. Taylor . . . . .	Mar. 8, 1932
312	Cape Cod Canal, Bourne,—construction landing pier and dredging .	Merritt-Chapman & Scott Corporation . . . . .	Apr. 26, 1932
313	Removal of hulks from property of Boston Port Development Co., at Jeffries Point, East Boston . .	New England Maintenance Co., Inc. . . . .	Mar. 15, 1932

## AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1932

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1932	Total paid to Nov. 30, 1932	Estimated Amount of Contract
Completed Jan. 19, 1932	For each hour worked by diver and tender, including equipment, \$5 for each hour employed on the work.	1,792 05	1,792 05	1,366 05
Completed May 14, 1932	For each linear foot of fence measured in place, including the furnishing of labor and materials and the performance of all excavation, back-filling and incidental work, the sum of \$7.75.			
	For each ton of riprap furnished and placed, including all grading and incidental work, \$4.00.	24,286 99	24,286 99	19,188 75
Completed May 5, 1932	For furnishing materials and constructing concrete sea wall, \$7.65 for each cubic yard of concrete measured in place in completed work.			
	For furnishing and placing heavy stone riprap and chips against sea wall and bank, \$1.70 for each ton of 2,000 pounds in place in the completed work.	13,764 01	13,764 01	14,039 01
Completed Jan. 11, 1932	Unit prices.			
	For removing hulk and equipment and placing it above high water back of bulkhead on southerly side of Reserved Channel, South Boston, the lump sum of \$6,700.	5,700 —	5,700 —	6,700 —
Completed Mar. 8, 1932	For each linear foot of track furnished and set in place in wharf platform, \$1.68 for each linear foot of track measured in place in the completed work.	4,093 80	4,093 80	4,093 80
	For furnishing and erecting complete in place the entire superstructure of the gangway, the lump sum of \$3,105.			
Completed Feb. 19, 1932	For furnishing and placing heavy stone riprap and granite chips in the jetties, \$2.59 for each ton of 2,000 pounds.	4,266 82	4,266 82	2,590 —
Completed May 20, 1932	For removal and disposal of wreck, the lump sum of \$146.	146 —	146 —	146 —
Completed July 15, 1932	For removal and disposal of hulks on premises of Boston Port Development Company adjacent to Condor and Border Sts., East Boston, the lump sum of \$11,000. (additional work \$3,000.)	14,000 —	14,000 —	14,000 —
Completed May 21, 1932	For removal and disposal of hulks, the lump sum of \$8,570.	8,570 —	8,570 —	8,570 —
Completed Apr. 23, 1932	For removal and disposal of hulks the lump sum of \$8,800.	8,800 —	8,800 —	8,800 —
Completed Mar. 24, 1932	For furnishing and placing each fender log 40 to 60 feet in length, including all bolts and fastenings, as specified, \$4.50 per linear foot of fender measured in place in the completed work.	1,276 94	1,276 94	1,298 —
	For furnishing and placing each wrought iron chain 4 feet in length the lump sum of \$25.			
In progress	Unit prices.	156,101 90	156,101 90	200,618 —
Completed June 28, 1932	For removal and disposal of hulks at premises on Marginal st. adjacent to property of International Glue Company, the lump sum of \$3,000.	3,900 —	3,900 —	3,900 —
	For removal and disposal of hulks at premises on Marginal Street, adjacent to McDonald's Wharf, the lump sum of \$900.			



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
315	Rubble concrete steps over concrete wall at Fieldston, Marshfield	Thomas Whalen & Sons, Inc.	Mar. 29, 1932
316	Filling back of concrete sea wall at Fieldston, Marshfield	Thomas Whalen & Sons, Inc.	Mar. 29, 1932
317	Commonwealth Pier 5,—changes in boiler settings	James C. Grant	Apr. 12, 1932
318	Harwich Shore,—stone jetties and riprap	Arthur K. Finney	May 3, 1932
319	New Bedford State Pier,—repairs to plaster walls by gunite process	Gunite Construction Company	May 10, 1932
320	Falmouth Shore Protection,—Menauhant Road	Sidney W. Lawrence	May 24, 1932
321	Second Cliff, Scituate,—riprap protection	Thomas Whalen & Sons, Inc.	May 31, 1932
322	Commonwealth Pier 5,—Repairs to timber platform	A. A. Hersey & Son Company	June 7, 1932
323	Green Harbor, Marshfield, dredging	Bay State Dredging & Contracting Co.	May 31, 1932
324	Boston Inner Harbor,—Dredging areas at East Boston and South Boston	Bay State Dredging & Contracting Co.	June 14, 1932
325	Hyannis Harbor, Lewis Bay, Barnstable,—timber bulkhead	Thomas Whalen & Sons, Inc.	June 28, 1932
326	Tenean Creek,—dredging	Bay State Dredging & Contracting Co.	June 14, 1932
327	New Bedford State Pier,—steel canopy	McClintic-Marshall Corporation	July 5, 1932

## AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1932

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1932	Total paid to Nov. 30, 1932	Estimated Amount of Contract
Completed June 16, 1932	For all rubble concrete measured in placed in completed work, including furnishing of all material, labor and incidental work, \$6.22 for each cubic yard. For each set of wrought iron railing in place, \$95.	4,764 56	4,764 56	3,873 40
Completed June 14, 1932	For each cubic yard of material furnished, delivered and measured in place in the completed work, 27 cents.	3,512 70	3,512 70	3,240 —
Completed May 5, 1932	For changes in setting of boilers Nos. 3 and 4, including new work and connections, \$2,500. For relining the fronts of boilers Nos. 3 and 4, as specified, \$100.	2,502 50	2,502 50	2,600 —
Completed June 23, 1932	For furnishing and placing heavy stone riprap and granite chips in jetties and in repairing existing structures \$3.33 for each ton of 2,000 pounds.	3,556 97	3,556 97	3,330 —
Completed Aug. 23, 1932	For removing plaster wall on south side of wooden shed and replacing said wall with new gunite wall, the lump sum of \$1,151. For removing plaster walls from south side of steel shed and at southeast corner of pier, and replacing said walls with new gunite walls, the lump sum of \$324. For placing new gunite surface one inch thick on the easterly face of the steel shed at the State Pier, the lump sum of \$995.	2,594 98	2,594 98	2,470 —
Completed Aug. 24, 1932	For each creosoted yellow pine pile furnished and driven in the completed work, \$4.50. For each untreated yellow pine pile furnished and driven in the completed work, \$2.00. For each thousand feet board measure of creosoted yellow pine lumber furnished, driven and set in place, \$86. For each ton of riprap and chips furnished and set in place, \$2.50.	5,324 17	5,324 17	4,311 —
Completed July 15, 1932	For each ton of stone riprap or chips furnished in place in the completed work the sum of \$1.64.	4,445 54	4,445 54	4,616 85
Completed Nov. 29, 1932	Unit prices.	6,161 65	6,161 65	3,784 —
Completed June 17, 1932	For dredging and disposing of dredged material, for each cubic yard, scow measurement, \$1.12. For removing and disposing of all boulders, for each cubic yard \$15.	3,696 —	3,696 —	3,711 —
Completed Oct. 29, 1932	For dredging area at East Boston and disposing of dredged material 37c. per cubic yard, scow measurement. For dredging area at South Boston and disposing of dredged material 37c. per cubic yard, scow measurement. For removing and disposing of boulders \$20 per cubic yard.	28,772 98	28,772 98	38,500 —
In progress	For each linear foot of creosoted timber bulkhead constructed in place, \$11.90.	8,092 —	8,092 —	10,710 —
Completed Aug. 3, 1932	For dredging channel and disposing of dredged material, 48 cents for each cubic yard, scow measurement. For removing and disposing of boulders, \$20 for each cubic yard.	5,388 48	5,388 48	4,820 —
Completed Sept. 2, 1932	For furnishing and erecting steel canopy in place, including all incidental work, the lump sum of \$5,319.	5,484 —	5,484 —	5,484 —



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
328	Commonwealth Pier 5,—reconstruction of boiler settings at heating plant . . . . .	Caigan Engineering Equipment Company . . . . .	Aug. 9, 1932
329	Commonwealth Pier 5,—and Viaduct,—reconstruction of concrete beams and slabs . . . . .	National Gunitite Contracting Co. . . . .	July 26, 1932
330	Hyannis Harbor, Lewis Bay, Barnstable,—dredging . . . . .	Saybrook Dredging Company . . . . .	Aug. 9, 1932
332	West Chop, Tisbury,—shore protection by stone jetties . . . . .	Joseph W. Nickerson . . . . .	Aug. 16, 1932
333	Waquoit Bay, Mashpee,—timber bulkhead and jetties . . . . .	Thomas Whalen & Sons, Inc. . . . .	Aug. 30, 1932
334	Sand Hills, Scituate,—rubble concrete ramps . . . . .	George W. Starbuck . . . . .	Sept. 6, 1932
335	Brant Rock, Marshfield,—sea wall . . . . .	A. Piatelli & Company . . . . .	Sept. 27, 1932
336	Lewis Bay, Hyannis Harbor,—drain and manholes at town landing . . . . .	Thomas Whalen & Sons, Inc. . . . .	Oct. 4, 1932
337	New Bedford State Pier,—lighting system . . . . .	W. Edward Howarth . . . . .	Oct. 4, 1932
338	E Street Storehouse,—installation of new electric service . . . . .	W. D. Smith Electric Co. . . . .	Oct. 4, 1932
339	First Cliff, Scituate—riprap . . . . .	Joseph F. Cavanagh . . . . .	Oct. 11, 1932
340	Gun Rock—Green Hill,—Hull,—sea wall repairs . . . . .	Thomas Whalen & Sons, Inc. . . . .	Oct. 25, 1932
342	West Harwich Beach,—stone jetty . . . . .	Sidney W. Lawrence . . . . .	Nov. 9, 1932
343	Oak Bluffs—repairs to concrete sea wall . . . . .	Merritt-Chapman & Scott Corporation . . . . .	Nov. 29, 1932

## AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1932

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1932	Total paid to Nov. 30, 1932	Estimated Amount of Contract
Completed Nov. 17, 1932	For removing and rebuilding settings of boilers No. 1 and No. 2 and the construction of a pit in front of the same, the lump sum of \$3,600.	3,105 90	3,105 90	3,654 —
Completed Sept. 12, 1932	Unit prices.	7,145 01	7,145 01	5,633 20
In progress	For dredging and disposing of dredged material on marsh, flats and behind the bulkhead, by the hydraulic process, or other means, including the construction of necessary dikes, sluices and spillways and incidental work, \$.1889 for each cubic yard measured in place.	—	—	21,534 60
In progress	For removing and disposing of all boulders, \$10 per cubic yard.	—	—	—
In progress	For furnishing and placing heavy stone riprap and granite chips in jetties, the sum of \$4.19 for each ton of 2,000 pounds.	2,884 41	2,884 41	2,095 —
Completed Nov. 28, 1932	For each linear foot of creosoted yellow pine bulkhead furnished and driven in place \$7.75.	1,646 87	1,646 87	1,937 50
Completed Oct. 11, 1932	For each linear foot of creosoted yellow pine jetty furnished and driven in place \$7.75.	—	—	—
Completed Oct. 11, 1932	For furnishing and placing each cubic yard of concrete measured in place in the completed work, including all excavation, back-filling and incidental work, the sum of \$5.87.	444.01	444 01	500 —
In progress	For furnishing material and constructing concrete sea wall, including all incidental work, \$6.65 for each cubic yard of concrete measured in place in the completed work.	3,631 06	3,631 06	6,650 —
Completed Nov. 26, 1932	Unit prices.	698 27	698 27	824 20
Completed Nov. 7, 1932	For furnishing all labor, materials and equipment and installing all electrical work, the lump sum of \$619.51.	577 58	577 58	619 51
Completed Oct. 31, 1932	For furnishing all labor, materials and equipment and installing complete a new electric service the lump sum of \$625.	531 25	531 25	625 —
Completed Nov. 3, 1932	For each ton of stone riprap furnished in place in the completed work, \$1.57.	449 62	449 62	392 50
In progress	For each cubic yard of concrete in place in the completed work, \$8.15.	—	—	896 50
In progress	For each ton of stone riprap furnished in place in the completed work, \$3.12.	—	—	530 40
Not yet begun	For furnishing material and constructing concrete sea wall, including excavation, backfill and all incidental work, \$13 for each cubic yard of concrete measured in place in completed work.	—	—	2,002 50
	For each ton of stone riprap furnished in place in completed work, \$3.75.	—	—	—



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The Commonwealth of Massachusetts

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ANNUAL REPORT

OF THE

Department of Public Works

For the Year Ending November 30, 1933















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# The Commonwealth of Massachusetts

## FOURTEENTH ANNUAL REPORT

### OF THE

## DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1933

*To the Honorable Senate and House of Representatives of the  
Commonwealth of Massachusetts*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the fourteenth annual report of the Department of Public Works for the year ending November 30, 1933.

The organization of the Department, as defined in Chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:—

Commissioner of Public Works, FRANK E. LYMAN.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, HERMAN A. MACDONALD.

*Office Building.* The new office building for this Department is intended to accommodate the various offices of the Department which are located in Boston. Any space not immediately needed for its activities is to be assigned for other State departments at reasonable rental figures. This building was authorized by Chapter 122, Acts of 1931, with additional appropriations for completion, namely,—Chapter 21, Acts of 1932 and Item 578b, Chapter 371, Acts of 1933.

The contract plans were prepared during the latter part of 1931 by the Architect, Edward T. P. Graham, of Boston, working in close cooperation with the Department to plan a layout of offices particularly adapted to the Department's functions, providing adequate working spaces and conditions for more efficient administrative conditions than had for many years been possible with the crowded condition at the State House and at Commonwealth Pier 5.

The main contract, for the erection of the building was awarded to F. V. Warren Co., of Philadelphia, Penn., and this was completed on July 15, 1933.

The Department moved its offices from the State House and its engineering offices from Commonwealth Pier 5, from May 4 to 8, 1933. The Registry of Motor Vehicles moved from Commonwealth Pier to the new building from July 1 to 5, 1933.

A number of outstanding projects were completed or begun during the year as follows: work on the new route 3-A, by-passing the thickly settled parts of Cohasset and Scituate; a new highway constructed from Taunton to Middleborough; a by-pass of Hyannis; a new highway from Dedham to Providence; and the Worcester Turnpike completed easterly through Wellesley and Newton. Work was started on new projects as follows: The portion of the Worcester Turnpike route which lies in Brookline; the new highway from Cambridge to Concord; and the work on the North Shore Radial highway connecting East Boston Traffic Tunnel with the main routes leading to the north.

The mileage of new State highways laid out during the year amounted to 28.41 miles, but there were abandoned or discontinued 13.48 miles of State highways, so that the net mileage of State highways amounted to 1824.05 miles at the end of the year.

The Department has constructed, reconstructed and widened 89.75 miles of State highways and built 163.22 miles of roads in cooperation with cities, towns and counties under the provisions of chapter 90, General Laws, and in addition has constructed 2.34 miles of highways under the



provisions of Special Acts. Under the provisions of section 26, Chapter 81, General Laws, the Department has had charge of the repair and maintenance of 9058 miles of public ways, exclusive of State highways in 179 towns.

The engineering and clerical staff of the Department was as follows:—

Chief Engineer, ARTHUR W. DEAN.

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND W. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:—

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2 H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor, — JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor, — FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

### *Registry of Motor Vehicles*

Registrar, MORGAN T. RYAN.

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,

December 1, 1933.

*Commissioner of Public Works.*

### SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

Advisability of further dredging Lynn Harbor and Saugus River and of widening draws in bridges over said river. Report made Dec. 5, 1932, by the Department of Public Works, under chapter 27, Resolves of 1932. (H. 2 of 1933).

Traffic conditions on Fall River and New Bedford highway at Westport Factory. Report made Dec. 2, 1932, by the Department of Public Works, under chapter 25, Resolves of 1932. (H. 3 of 1933).

Abolition of the grade crossing at Lincoln Square in Worcester. Joint report made Dec. 2, 1932, by the Department of Public Works and the

Department of Public Utilities, under chapter 37, Resolves of 1932. (H. 153 of 1933).

Public access to Lake George or Wales Pond in the town of Wales. Report made Dec. 20, 1932, by the Department of Public Works and the Attorney General, jointly, under chapter 453, Acts of 1923. (H. 179 of 1933).

Construction of a new high level bridge over the Weymouth Fore River between the city of Quincy and the town of Weymouth. Report made Dec. 2, 1932, by the Department of Public Works, under chapter 32, Resolves of 1932. (S. 4 of 1933).

Plans for the construction of a comfort station and the laying out of a parking area for motor vehicles near the entrance to the Wachusett Dam in the town of Clinton. Joint report made Dec. 7, 1932, by the Metropolitan District Commission and the Department of Public Works, under chapter 33, Resolves of 1932. (S. 6 of 1933).

Advisability of providing for scientific surveys of the natural resources of the Commonwealth. Report made Dec. 6, 1932, by the Department of Public Works, under chapter 138, Acts of 1932. (S. 8 of 1933).

### RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 4, 1933, as required by law that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. The Department recommends legislation to correct bearings of certain harbor lines on the southerly side of Charles River at the Charlestown Bridge in the city of Boston, given in section one, chapter two hundred and thirty-nine, Acts of nineteen hundred and thirty.

2. A portion of the United States Pierhead and Bulkhead line on the easterly side of New Bedford Harbor has been revised by the War Department. Inasmuch as the State harbor line elsewhere coincides with the United States lines, the Department recommends legislation to make the slight changes necessary for the State harbor line to conform to the Federal harbor lines.

3. At the present time the Department of Public Works has limited authority only in regard to the regulation of speed of vehicles on highways. For some time it has been felt that no adequate or satisfactory solution of the problem of speed control has been discovered. The Department asks authority to experiment on various rules and devices on certain highways to determine whether or not a satisfactory solution of the speed problem can be reached by carrying out at the same time both scientific studies and practical tests of various ideas. It also requests authority for a limited period to establish from time to time such rules and regulations as may be necessary to carry out these plans.

### APPROPRIATIONS

Chapter 89, Acts of 1933, making appropriations for the employment of additional persons as a measure of relief during the present unemployment emergency, is, in part, as follows:—

#### *Service of the Department of Public Works*

Item

- C. For removing abandoned hulks or wrecks lying along the waterfront of Boston Harbor, a sum not exceeding fifty thousand dollars . . . . . \$50,000 00

Chapter 174, Acts of 1933, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth etc., is, in part, as follows:—



## Item

*Requirements for Extinguishing the State Debt*

209. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of one million six hundred seventy-one thousand three hundred ninety-nine dollars and fifty cents, payable from the following accounts and funds in the following amounts: — from the surplus of sinking fund revenue, four hundred twenty thousand dollars; from the Highway Fund, two hundred four thousand six hundred forty-nine dollars and fifty cents; and the remainder from the General Fund . . . . . \$1,671,399 50
- 209a. To meet one-fourth of the expenditures authorized by sections one and two of chapter one hundred and twenty-two of the acts of nineteen hundred and thirty-one, and already in the main incurred, which is the proportionate part intended to be ultimately met by the Commonwealth during the current fiscal year, thereby reducing by the sum hereby appropriated the amount that may be borrowed under section three of said chapter, without otherwise affecting the authority to borrow under said section three the remainder of the amount authorized to be borrowed thereunder, the sum of two million one hundred and twenty-five thousand dollars, the same to be paid from the Highway Fund . . . . . 2,125,000 00

*Interest on the Public Debt*

210. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding eight hundred sixty-nine thousand dollars, of which sum two hundred thirty-nine thousand dollars shall be paid from the Highway Fund . . . . . 869,000 00

*Service of the Department of Banking and Insurance**Division of Insurance:*

298. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred eighty-two thousand one hundred and eighty dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund . . . . . 182,180 00

*Service of the Department of Corporations and Taxation**Corporation and Taxation Division:*

305. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred twenty thousand and sixty dollars, of which sum not more than fifty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so called . . . . . 220,060 00

*Service of the Department of Public Safety*  
Division of State Police:

550.	For the salaries of officers, including detectives, a sum not exceeding four hundred seven thousand six hundred dollars, of which sum not more than one hundred and forty thousand dollars may be charged to the Highway Fund . . . . .	407,600 00
552.	For other necessary expenses of the uniformed division, including traveling expenses of detectives, a sum not exceeding three hundred fifty thousand dollars, of which sum not more than one hundred fifty-six thousand nine hundred dollars may be charged to the Highway Fund . . . . .	350,000 00

*Service of the Department of Public Works*

The appropriations made in the following three items are to be paid two thirds from the Highway Fund and one third from the Port of Boston receipts:

570.	For the salaries of the commissioner and the associate commissioners, a sum not exceeding eighteen thousand four hundred and sixty dollars . . . . .	18,460 00
571.	For personal services of clerks and assistants to the commissioner, a sum not exceeding eighty-seven hundred and fifty dollars . . . . .	8,750 00
572.	For traveling expenses of the commissioners, a sum not exceeding seventeen hundred and forty dollars . . . . .	1,740 00
Total . . . . .		\$28,950 00

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

573.	For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding eighty-nine thousand three hundred and twenty dollars . . . . .	89,320 00
574.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding ten thousand three hundred dollars . . . . .	10,300 00
575.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand dollars . . . . .	12,000 00
576.	For the construction and repair of town and county ways, a sum not exceeding two million six hundred thousand dollars . . . . .	2,600,000 00
577.	For aiding towns in the repair and improvement of public ways, a sum not exceeding nine hundred ninety thousand dollars . . . . .	990,000 00
578.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the	



## Item

purchase and improvement of a nursery for roadside planting, a sum not exceeding two million seven hundred ten thousand dollars . . . . .

2,710,000 00

578a. For the maintenance and operation of the new public works building, a sum not exceeding forty thousand dollars . . . . .

40,000 00

579. For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding five hundred twenty-five thousand dollars, and in addition there is hereby transferred the sum of seven hundred twenty-five thousand dollars from the appropriation previously made for the elimination of grade crossings . . . . .

-  
\$525,000 00

580 For administering the law relative to advertising signs near highways, a sum not exceeding fourteen thousand seven hundred and twenty dollars, to be paid from the General Fund . . . . .  
Registration of Motor Vehicles:

14,720 00

581 For personal services, a sum not exceeding nine hundred thirty thousand two hundred dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund . . . . .

930,200 00

582 For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding five hundred forty-three thousand five hundred and fifty dollars, to be paid from the Highway Fund . . . . .

543,550 00

583 For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding one thousand dollars, to be paid from the Highway Fund . . . . .  
Specials:

1,000 00

585 For certain highway improvements in the city of Revere, as authorized by chapter four hundred and forty-five of the acts of nineteen hundred and thirty-one, as amended by chapter two hundred and fifty-eight of the acts of nineteen hundred and thirty-two, a sum not exceeding five hundred and fifty thousand dollars, to be paid from the Highway Fund and to be in addition to the unexpended balance of any appropriation heretofore made for the purpose and to be in anticipation of a further appropriation in nineteen hundred and thirty-three sufficient to complete the work authorized by said chapters. The department of public works is hereby authorized to make contracts and incur expenses within the total sum of one million three hundred fifty-five thousand dollars authorized by said chapters . . . . .

\$550,000 00

586 There is hereby added to the sum appropriated in nineteen hundred and thirty-two for land damages and other expenses incidental to the laying out of a state highway extending from Alewife

## Item

Brook parkway in the city of Cambridge through said city and certain towns, including Concord, as authorized by chapter three hundred and two of the acts of nineteen hundred and thirty-two, a sum not exceeding one hundred thirty thousand dollars, to be paid from the Highway Fund

130,000 00

Functions of the department relating to waterways and public lands:

587	For personal services of the chief engineer and assistants, a sum not exceeding fifty thousand six hundred dollars . . . . .	50,600 00
588	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding seventeen hundred dollars . . . . .	1,700 00
589	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding forty-seven hundred dollars	4,700 00
590	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding twenty-two thousand five hundred dollars . . . . .	22,500 00
591	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, a sum not exceeding twenty-five thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered; and further provided that the department of public works may expend a sum not exceeding eight thousand dollars of the total appropriation for dredging near the state pier at New Bedford without any restriction as to contributions . . . . .	25,000 00
592	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding one thousand dollars . . . . .	1,000 00
593	For expenses of surveying certain town boundaries, by the department of public works, a sum not	



## Item

	exceeding five hundred dollars . . . . .	500 00
594	For the operation and maintenance of the New Bedford state pier, a sum not exceeding ten thousand dollars . . . . .	10,000 00
595	For the compensation of dumping inspectors, a sum not exceeding one thousand dollars . . . . .	1,000 00
596	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars . . . . .	4,000 00
597	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding thirty-eight hundred dollars . . . . .	3,800 00
	The unexpended balance of the appropriation made by item six hundred and thirty-eight of chapter two hundred and forty-five of the acts of nineteen hundred and thirty-one for certain work in the Taunton river, authorized by chapter four hundred and five of the acts of nineteen hundred and thirty, is hereby reappropriated.	
598	For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding thirty-five hundred dollars . . . . .	3,500 00
598a	For the erection of buildings on the Cape Cod Canal pier, a sum not exceeding twelve thousand five hundred dollars . . . . .	12,500 00
	Functions of the department relating to Port of Boston (the following items are to be paid from the Port of Boston receipts):	
599	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred nine thousand six hundred dollars . . . . .	\$109,600 00
600	For the maintenance of pier one, at East Boston, a sum not exceeding seventy-seven hundred and eighty dollars . . . . .	7,780 00
601	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding ninety-eight thousand two hundred dollars . . . . .	98,200 00
602	For dredging channels and filling flats, a sum not exceeding fifty-five thousand dollars, the same to be in addition to any unexpended balance of the appropriation made for the purpose in the previous year . . . . .	55,000 00

## MISCELLANEOUS

The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

622	For maintenance of boulevards and parkways, a sum not exceeding five hundred forty-six thousand and forty dollars . . . . .	546,040 00
623	For resurfacing of boulevards and parkways, a sum not exceeding one hundred thousand dollars . . . . .	100,000 00
624	For maintenance of Wellington bridge, a sum not	

	exceeding forty-nine hundred and fifty-four dol- lars . . . . .	4,954 00
	For certain other aid:	
630	For the compensation of certain public employees for injuries sustained in the course of their em- ployment, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding sixty thousand dol- lars, of which sum not more than twenty thou- sand dollars may be charged to the Highway Fund . . . . .	60,000 00

DEFICIENCIES

For deficiencies in certain appropriations of  
previous years, in certain items, as follows:

*Department of Public Works*

Functions of the department relating to high-  
ways:

For administering the law relative to advertising signs near highways, the sum of fifteen dollars and eighty-two cents, to be paid from the General Fund . . . . .	15 82
For the construction and repair of town and county ways, the sum of sixty dollars and eighty-one cents, to be paid from the Highway Fund . . . .	60 81
For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the ap- proval of the attorney general; for care and re- pair of road-building machinery; and for the purchase and improvement of a nursery for road- side planting, the sum of forty dollars and sixty- four cents, to be paid from the Highway Fund .	40 64
For the purpose of enabling the department of public works to secure federal aid for the construction of highways, the sum of three dollars, to be paid from the Highway Fund . . . . .	3 00
Registration of Motor Vehicles:	
For services other than personal, including traveling expenses, purchase of necessary supplies and ma- terials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, the sum of three dollars and eight cents, to be paid from the Highway Fund . . . . .	3 08
Functions of the department relating to water- ways and public lands:	
For the supervision and operation of commonwealth pier five, including the salaries or other compen- sation of employees, and for the repair and re- placement of equipment and other property, the sum of seventy-eight dollars and ninety-five cents, to be paid from the Port of Boston receipts .	78 95
For dredging channels and filling flats, the sum of six hundred seventy-seven dollars and two cents, to be paid from the Port of Boston receipts .	\$677 02



SECTION 6. No payment shall be made or obligation incurred under authority of any special appropriation made by this act for construction of public buildings or other improvements at state institutions until plans and specifications have been approved by the governor, unless otherwise provided by such rules and regulations as the governor may make.

SECTION 8. No expenses incurred on and after the date of the passage of this act for mid-day meals by state employees, other than those who receive as part of their compensation a non-cash allowance in the form of full or complete boarding and housing, and those employees who are stationed beyond commuting distance from their homes for a period of more than twenty-four hours, shall be allowed by the commonwealth.

Chapter 296, Acts of 1933, making an appropriation for adjusting the salaries of certain employees of the Commonwealth, follows:—

SECTION 1. The sum of one hundred and fifteen thousand dollars, of which not more than thirty thousand dollars shall be paid from the Highway Fund, not more than eight thousand dollars from the several funds of the metropolitan district commission, and the remainder from the General Fund, is hereby appropriated to meet the additional payments required for paying the salaries of certain employees of the commonwealth to be increased as of June first in the current year as recommended by the governor in a message to the general court dated May twenty-fifth, nineteen hundred and thirty-three. The sum appropriated by this act shall be apportioned by the comptroller of the commonwealth to the proper appropriations made during the current year in such amounts as may be certified by the division of personnel and standardization of the commission on administration and finance to be necessary to carry out the provisions of this act.

SECTION 2. This act shall take effect upon its passage.

Chapter 371, Acts of 1933, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

SECTION 1. To provide for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item	<i>Service of the Department of Public Works</i> Functions of the department relating to highways:	
578b	For completing the public works office building and for the settlement of certain claims in connection with the construction of said building, a sum not exceeding eighty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purposes and to be paid from the Highway Fund. Any sums awarded by the department of public works on account of said claims shall be subject to the approval of the attorney general . . . . .	\$85,000 00
579	In addition to the sum heretofore appropriated by Item 579 of chapter one hundred and seventy-four of the acts of the current year, there is hereby added the further sum of one million eight hundred and thirty thousand dollars, to be paid from the High-	

Item		
	way Fund, which, together with the appropriation made by Item 585 of said chapter one hundred and seventy-four, may be used by the department of public works in supplementing and expediting the receiving of the benefits provided by the National Industrial Recovery Act or of any other federal money available for the construction of any highway projects, including bridges, authorized by special legislation, or otherwise, and of certain highway improvements in the city of Revere as provided in said Item 585 as the department may find necessary .	1,830,000 00
573a	For personal services of the superintendent, elevator operators, watchmen, mechanical handymen and porters employed at the new public works building a sum not exceeding five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and to be paid from the Highway Fund . . . . .	5,000 00
580	For administering the law relative to advertising signs near highways, a sum not exceeding sixty-five hundred dollars, to be paid from the General Fund and to be in addition to any amount heretofore appropriated for the purpose . . . .	6,500 00
585	(This item combined with Item 579.)	
585a	For expenses of certain highway improvements, as authorized by chapter three hundred and fifty-six of the acts of the current year, a sum not exceeding forty thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose	40,000 00
	Functions of the department relating to waterways and public lands:	
591a	For certain shore protection in the town of Nahant, a sum not exceeding fifteen thousand dollars, which sum is hereby made available at such time as the town of Nahant pays into the treasury of the commonwealth an equal sum of fifteen thousand dollars . . . . .	15,000 00
591b	For the improvement of the dike across the mouth of the Herring river in the town of Wellfleet, as authorized by chapter two hundred and seventeen of the acts of the current year, a sum not exceeding ten thousand dollars . . . . .	10,000 00
591c	For the extention of certain sea walls in the town of Scituate, as authorized by chapter two hundred and eighty-six of the acts of the current year, a sum not exceeding thirty-seven thousand five hundred dollars . . . . .	37,500 00
591d	For placing riprap for the protection of the shore at Stony Beach in the town of Hull, as authorized by chapter three hundred and thirty of the acts of the current year, a sum not exceeding eight thousand dollars . . . . .	8,000 00
	Functions of the department relating to Port of Boston (the following items are to be paid from the Port of Boston receipts):	



12		P. D. 54
Item		
602	For dredging channels and filling flats, a sum not exceeding twenty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	25,000 00
C	For removing abandoned hulks or wrecks lying along	
1933,	the waterfront of Boston harbor, a sum not ex-	
ch. 89	ceeding twenty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	25,000 00

*Miscellaneous*

The following item is to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

623	For resurfacing of boulevards and parkways, a sum not exceeding fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, provided that human labor be used as far as may be possible . . . . .	50,000 00
	Claims:	
636a	For the payment of claims authorized by certain resolves of the current year, a sum not exceeding fifty-six thousand eight hundred eleven dollars and eighteen cents, of which sum one hundred sixty dollars and forty-one cents shall be charged to the Highway Fund. Said payments shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted in full compensation on the part of the commonwealth in respect thereto . . . . .	56,811 18

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

*Department of Public Works*

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the purchase and improvement of a nursery for roadside planting, the sum of three hundred forty-seven dollars and eighty-four cents, to be paid from the Highway Fund . . . . .	347 84
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SECTION 3. The following amendments and transfers are hereby authorized in appropriations previously made:

- Item 579 of chapter one hundred and seventy-four of the acts of the present year is hereby amended by striking out the word "twenty-five" in line six.
- Item 585 of chapter one hundred and seventy-four of the acts of the present year is hereby amended by striking out the word "thirty-three" in lines eleven and twelve and inserting in place thereof the word "thirty-four".

Item

*Department of Public Works*

The treasurer and receiver-general is hereby directed to assess upon the municipalities of the metropolitan parks district, including the city of Revere, in proportion to the respective taxable valuations of the property of said municipalities as defined by section fifty-nine of chapter ninety-two of the General Laws, from time to time as certified by the department of public works, such sums as represent that portion of the cost of certain work authorized by section one of chapter four hundred and forty-five of the acts of nineteen hundred and thirty-one, as amended by chapter two hundred and fifty-eight of the acts of nineteen hundred and thirty-two, which, under section six of said chapter four hundred and forty-five, as so amended, are to be paid by said municipalities, and such sums as in the aggregate amount to one third of the cost of the work authorized by section three of said chapter four hundred and forty-five, as amended.



## FINANCIAL STATEMENTS

## Summary of Income, Year Ending November 30, 1933

## HIGHWAY FUND

*Section 34, Chapter 90, General Laws, as amended**(See Chapter 288, Acts of 1925)*

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts . . . . .	\$6,317,240.63
Gasoline tax, gross . . . . .	16,681,710.59
Contributions for highways and assessments (G. L. Ch. 81) . . . . .	506,910.10
Appropriation balances of previous years reverting . . . . .	240,541.01
Contributions and refunds . . . . .	104,846.11
Sale of old materials and buildings . . . . .	5,366.68
Reimbursement for repairs to guard rail and other property . . . . .	7,209.67
Rent of property (Nursery) . . . . .	230.00
Rent of space, Public Works Building . . . . .	739.20
Slot Machine Receipts . . . . .	52.90
	<hr/> \$23,864,846 89

## PORT OF BOSTON FUND

*(Chapter 91, General Laws)*

Rents (leases and permits) . . . . .	161,768 84
Reimbursement for services (inspection of dumping dredged material in Boston Harbor) . . . . .	2,729 90
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.) . . . . .	146,939 35
Use of Commonwealth Pier No. 1 (rentals, etc.) . . . . .	1,513 23
Revenue from permits for dumping dredged material at receiving basins . . . . .	4,160 19
License charges (for tidewater displacement and occupying Commonwealth tide lands (Boston Harbor) . . . . .	7,221 02
Telephone pay station receipts . . . . .	100 40
Sales of land . . . . .	40,745 00
Sales of Boston Harbor maps . . . . .	1 50
Sundries . . . . .	287 87
Appropriation balances of previous years reverting . . . . .	3,951 63
	<hr/> \$ 369,418 93

## DEPARTMENT INCOME

*(Ordinary Revenue)*

Sales (specifications and plans for contracts) . . . . .	430 00
Interest on Bank accounts . . . . .	248 01
Aircraft Licenses . . . . .	492 00
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, ch. 196, Acts of 1925) . . . . .	297 37
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor . . . . .	2,393 65
Certified copying charges . . . . .	93 00
Sale of Atlas sheets and miscellaneous plans . . . . .	865 10

Use of Province Lands (S. 25, C. 91, G. L.)	167 05	
Permits for advertising signs . . . .	13,231 92	
Use of New Bedford State Pier . . . .	19,248 84	
Use of Plymouth State Pier . . . .	200 00	
Use of Cape Cod Canal State Pier . . . .	660 00	
Reimbursement a/c removal of wrecks . .	881 98	
		\$39,208 92

## IMPROVEMENT OF RIVERS AND HARBORS TRUST

(Sections 11, 29, chapter 91, General Laws)

Contributions from towns, individuals or others . . . .	\$30,050 00
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## HIGHWAY TRUST

Section 30, Chapter 81, G. L.

Federal Aid (reimbursement from United States Government . . . . .)	\$3,375,466 67
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## FUNDS CONTRIBUTED FOR WORK UNDER SPECIAL ACTS

Contribution by City of Quincy (Chap. 222, Acts of 1932) . . . . .	\$3,000 00	
Contribution by Town of Winthrop (Ch. 256, Acts of 1932) . . . . .	25,000 00	
Contribution by Town of Nahant (Ch. 371, Acts of 1933) . . . . .	15,000 00	
Contribution by County of Plymouth (Ch. 286, Acts of 1933) . . . . .	18,750 00	
Contribution by Town of Scituate (Ch. 286, Acts of 1933) . . . . .	18,750 00	
		\$80,500 00
<i>Total</i> . . . . .		\$27,759 491 41

## EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 174 and 371, acts of 1933, during the fiscal year ending November 30, 1933, were as follows:

## ADMINISTRATIVE

Commissioners Associate Commissioners, Personal services of clerks, stenographers, and commissioners' travel . . . . .	\$27,390 36	
Public Works Department Building, land and services . . . . .	490,341 22	
Public Works Building, equipment . . . .	37,880 49	
Public Works Building, operation and maintenance . . . . .	35,881 42	
		\$591,493 49

## RELATING TO HIGHWAYS

<i>Personal Services</i> —Chief Engineer, Clerks and stenographers . . . . .		\$86,252 88
<i>State Highways</i> —Construction (Chapter 81, G. L. ) general contract work . . . .	\$3,662,306 39	
Engineering (Supervision) . . . . .	654,470 16	
Rent of offices, Comm. Pier 5 . . . . .	3,600 00	
Highway Testing Laboratory . . . . .	15,952 57	
Hingham—Hull (Chapter 118, Acts of 1931) . . . . .	36 90	
Lynn—Revere, N.I.R.A. . . . .	669 74	
		4,337,035 76



*Maintenance and Repair of State Highways*

(Chapter 81, General Laws)

*Reconstruction of State Highways*

General contract work . . . . .	1,571,900 32
Engineering, supervision on reconstruction	380,639 56

1,952,539 88

*Ordinary Maintenance*

General Maintenance . . . . .	1,393,141 37
Engineering (Supervision) . . . . .	309,006 47
Highway Testing Laboratory . . . . .	9,038 22
Care and repair of road building machinery . . . . .	87,405 08
Removal of snow from highways . . . . .	506,069 26
Roadplanting and development . . . . .	29,485 17
Traffic engineering, signs and traffic count	153,971 48
Paint manufacture . . . . .	9,265 37
Newburyport Bridge, Salisbury-Newburyport, over Merrimack River, maintenance and operation . . . . .	11,350 43
Brightman St. Bridge, Fall River-Somerset, maintenance and operation . . . . .	16,703 60
New Bedford-Fairhaven Bridge, Acushnet River (Chapter 426, Acts of 1930) . . . . .	14,486 01
Route and detour maps . . . . .	1,154 15
Rent for offices at Commonwealth Pier 5 . . . . .	3,600 00
Construction of D Street Garage . . . . .	40,802 91
Heating plant at D Street . . . . .	7,093 80

2,592,573 32

*Construction and Repair of Town and County Ways*

(Section 34, Chapter 90, General Laws)

State's expenditures for work contracted for in cities and towns . . . . .	1,597,721 20
Engineering and expense (supervision) . . . . .	369,207 81
Rent of offices, Commonwealth Pier 5 . . . . .	1,800 00

1,968,729 01

*Aiding Towns in the Repair and Improvement of Public Ways* (Section 26, Chapter 81, General Laws, as amended)

State's expenditures for work contracted for in cities and towns . . . . .	886,239 60
Engineering and expense (supervision) . . . . .	78,273.55

964,513 15

*Special Acts:*

Expenditures under the provisions of Chapter 122, Acts of 1931 . . . . .	870,259 40
<i>Incidentals</i> (printing, postage, supplies, etc.) . . . . .	7,845 26
<i>Advertising signs regulation of personal services and expenses</i> . . . . .	21,092 36
<i>Highways in Malden, Braintree, Weymouth and Hingham</i>	
Hingham, Braintree and Weymouth . . . . .	3,168 90
<i>Highways in Metropolitan District</i> (Chapter 420, Acts of 1930, as amended by Chapter 450, Acts of 1931)	
Section 1. Canton, Dedham, Wellesley, etc. . . . .	136,199 51
Section 2. Canterbury Street, Boston . . . . .	28,872 98

Section 3. Land taking-Neponset River, Milton . . . . .	55,091 43	
Section 4. West Roxbury - Brookline Parkway . . . . .	86,811 91	
		306,975 83
<i>Abolition of Grade Crossings</i> (Chapter 417, Acts of 1930) . . . . .		26,037 86
<i>Plans for Weymouth Fore River Bridge</i> (Chapter 32, Resolves of 1932) . . . . .		8,030 67
<i>Construction of Saugus River Bridge</i> (Chap- ter 241, Acts of 1932) . . . . .		534 57
<i>Expenditures under Chapter 258, Acts of</i> 1932.		
Section 1. State Highway, Revere . . . . .	366,967 70	
Section 2. Boston-Revere . . . . .	177,858 88	
Section 3. Ocean Ave., Revere . . . . .	202,183 89	
		747,010 47
<i>Alewife Brook Parkway Extension</i> (Chapter 302, Acts of 1932) . . . . .		68,468 57
<i>Suppression of gypsy and brown-tail moths</i> on State Highways in cities and towns . . . . .		11,907 67
<i>Total Expenditures for Highways . . . . .</i>		\$13,972,975 56

SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses . . . . .	\$50,473 53
<i>Boston Harbor:</i>	
Maintenance and Operation, Commonwealth Pier No. 1, East Boston . . . . .	6,731 57
Maintenance and Operation, Commonwealth Pier No. 5, South Boston . . . . .	101,319 54
Maintenance of Property . . . . .	50,355 69
Dredging and Filling . . . . .	39,148 13
Streets, Piers and Railroads . . . . .	49 00
Removal of Hulks (Chapter 89, Acts of 1933) . . . . .	71,760 01
Quincy Bay (Chapter 222, Acts of 1932) . . . . .	11,906 42
<i>Outside of Boston Harbor:</i>	
Improvement of Rivers and Harbors . . . . .	113,184 57
Repairing damages to shore . . . . .	24,467 08
New Bedford State Pier, operation and maintenance . . . . .	5,420 89
New Bedford State Pier (Chapter 273, Acts of 1932) . . . . .	713 91
Expenses of Province Lands . . . . .	4,700 00
Expenses of Plymouth Property . . . . .	3,407 07
Topographical survey . . . . .	1,000 00
Stream Gauging . . . . .	4,000 00
Surveying state and town boundaries . . . . .	278 32
Compensation for services of dumping inspectors . . . . .	115 12
Marshfield Shore Protection (Chapter 407, Acts of 1931) . . . . .	16,434 84
Scituate Shore Protection (Chapter 424, Acts of 1931) . . . . .	185 06
Scituate Shore Protection (Chapter 286, Acts of 1933) . . . . .	45,532 14
Construction of Pier, Cape Cod Canal (Chapter 441, Acts of 1931) . . . . .	87,065 25
Cape Cod Canal Pier, operation and maintenance . . . . .	2,135 46
Geological Survey Trust Fund . . . . .	2,709 90
Nahant shore protection . . . . .	2,093 04
Winthrop shore protection (Chapter 256, Acts of 1932) . . . . .	111,279 49
Herring River, Wellfleet (Chapter 217, Acts of 1933) . . . . .	4,685 12
	\$761,151 15



## EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles . . . \$1,434,382 44

SUMMARY OF EXPENDITURES BY DEPARTMENT  
FOR YEAR ENDING NOVEMBER 30, 1933

Administrative . . . . .	\$591,493 49
Relating to Highways . . . . .	13,972,975 56
Registry of Motor Vehicles . . . . .	1,434,382 44
Relating to Waterways . . . . .	761,151 15
Total . . . . .	<hr/> \$16,760,002 64

## COOPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended, of approximately \$2,265,742.12 for cooperative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

RELATING TO HIGHWAYS  
GENERAL STATEMENT

*State Highways.*—During the year ending November 30, 1933, the Department laid out new State highways amounting to 28.41 miles in 25 cities and towns. Under Chapter 81, General Laws, as amended by Chapter 427, Acts of 1931, 13.485 miles of State Highway were discontinued or abandoned. The total length of State Highways at the end of the year was 1824.051 miles.

*Highways Constructed in 1933.*—Construction has been completed on 44.366 miles of State highway, 163.220 miles of highway under the provisions of section 34, Chapter 90, General Laws, as amended, and 2.345 miles of highway under the provisions of Special Acts, making a total of 209.931 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:

- 12.798 miles of Reinforced Cement Concrete
- 5.258 miles of Dual (reinf. conc. and bit. macadam).
- 69.897 miles of Bituminous Macadam.
- 18.065 miles of Bituminous Concrete.
- 55.944 miles of Bituminous Concrete (Mixed in Place).
- 0.246 miles of Waterbound Macadam (Bituminous Surf.).
- 26.032 miles of Gravel with Bituminous Treatment.
- 21.691 miles of Gravel.

*Resurfacing, Reconstruction and Widening of State Highways.*—During the year 0.758 miles of State highway were widened but not resurfaced, and 44.621 miles were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be finished up next year.

The Resurfacing or Reconstruction of State Highways in 1933 was divided into types as follows:

- 5.219 miles of Reinforced Cement Concrete.
- 32.868 miles of Bituminous Macadam.
- 4.318 miles of Bituminous Concrete.
- 2.216 miles of Bituminous Concrete (Mixed in Place).

*Surveys, Plans and Estimates.*—During the year ending November 30, 1933, preliminary surveys, plans and estimates were made as follows:

*For State Highway Construction.*—Preliminary surveys in 8 cities and 16 towns, 41.582 miles; plans in 7 cities and 12 towns, 45.074 miles; preliminary estimates in 4 cities and 15 towns, 42.827 miles; lines and grades in 5 cities and 17 towns, 52.666 miles; and final surveys in 1 city and 19 towns, 42.441 miles.

*For State Highway Reconstruction and Resurfacing.*—Preliminary surveys in 8 cities and 52 towns, 112.241 miles; Plans in 7 cities and 49 towns, 95.028 miles; Preliminary estimates in 6 cities and 58 towns, 120.620 miles; lines and grades in 7 cities and 59 towns, 116.040 miles, and final surveys in 1 city and 25 towns, 46.810 miles.

*Under Section 34, Chapter 90, General Laws, as amended.*—Reconnaissance surveys in 10 towns, 17.384 miles; preliminary surveys in 9 cities and 155 towns, 182.740 miles; plans in 9 cities and 154 towns, 176.105 miles; preliminary estimates in 9 cities and 162 towns, 179.408 miles; lines and grades in 9 cities and 169 towns, 183.416 miles; and final surveys in 5 cities and 51 towns, 63.417 miles.

*National Recovery Act.*—Since the passage of the National Recovery Act, a large number of projects have been prepared, in addition to the projects authorized by this department. It is not the purpose of the following list to show the mileage of all the projects that have been worked up for the National Recovery Act, because some of the surveys, plans, and estimates had been made prior to the passage of the Act, or have been included elsewhere in the preceeding lists and would have been completed with funds of the Commonwealth, in normal times.

Preliminary plans in 3 cities and 22 towns, 54.470 miles; plans in 2 cities and 20 towns, 43.35 miles; estimates in 2 cities and 23 towns, 52.26 miles; lines and grades in 1 city and 3 towns, 3.19 miles.

Under the provisions of various acts and resolves, surveys, plans, estimates, lines and grades and final surveys were made as follows:

Chapter 24, Resolves of 1933; Section A, 18.00 miles of reconnaissance survey and plans in 3 cities and 9 towns, 29.76 miles of estimate in 3 cities and 9 towns. Section B, 5.38 miles of reconnaissance survey, plans, and estimates in 1 city and 1 town.

Chapter 14, Resolves of 1933:—29.73 miles of reconnaissance estimates in 1 city and 1 town.

Chapter 16, Resolves of 1933:—8.3 miles of reconnaissance estimates in 1 city and 1 town.

Chapter 302, Acts of 1932:—1.39 miles of reconnaissance survey and plans in 1 town.

Chapter 31, Resolves of 1933:—27.76 miles of reconnaissance estimates in 7 towns.

Chapter 23, Resolves of 1933:—25.00 miles of reconnaissance estimates in 4 cities and 7 towns.

Chapter 417, Acts of 1930:—1.10 miles of survey and plans in 1 town.

*Construction Reconnaissance.*—61 miles of survey and plans in 2 cities and 12 towns; 40 miles of estimate in 2 cities and 8 towns.

*Reconstruction Reconnaissance.*—3.72 miles of survey, plans and estimates in 1 city and 4 towns.

Precise levels have been made covering 422 miles in 34 towns; 40 bench mark disks have been set in 26 towns.

*Permits.*—There were 1701 permits issued during the year for opening or occupying State highways for various purposes.

*Engineering Advice to Other Departments.*—Advice to Department of Public Safety; 0.04 miles of survey in one town.

Advice to Department of Conservation; 1.00 mile of survey, plan and estimate in 1 town.

*Engineering Advice to Municipal Authorities.*—The Department furnished engineering advice without charge to 28 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.



*Approval of Specifications.*—The Department approved during the year, under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of roads in 7 towns and cities.

*Approval of Bridge Plans.*—The Department approved during the year, under the provisions of Chapter 313, Acts of 1923, plans for the construction of 5 bridges in 1 town and 3 cities.

*Planting of Trees on State Highways.*—During the past year, 1,224 trees were planted along roadsides making a total of 64,891 trees thus set out in the past twenty-nine years. In addition, there were planted throughout the State 707 shrubs, 402 vines, and 120 evergreens; also 376 small pines on bare slopes and ragged cuts.

### PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, Chapter 81, General Laws; hearings on appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 86 cases; on an order prohibiting the use of North Adams Airport as a landing field; on an order permitting the use of the Framingham Airport as a landing field for commercial aircraft; on a special regulation for motor vehicles in Milton; on a petition for the relocation of street railway tracks in Revere; on the matter of outdoor advertising in five towns and cities; on the matter of an overpass across the location of the Boston & Maine Railroad in Revere; on the matter of traffic rules; on the matter of an investigation relative to bridge over Mystic River in the cities of Chelsea and Revere under the provisions of Chapter 36, Resolves of 1933; and on the matter of laying out State highways across railroad crossings in Auburn and Stoughton.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	27	29
Work under section 34, Chapter 90, General Laws, as amended		260
Work under section 26, Chapter 81, General Laws, as amended	179	178
Work under Special Acts		4
Micellaneous		10
Total	206	481

### STATE HIGHWAYS

#### PETITIONS FOR STATE HIGHWAYS

General Laws, chapter 81, section 4, provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city, or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the Commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows:—

SELECTMEN OF WEBSTER: — Road extending from a point on Oxford Road about 0.35 of a mile south of the dividing line between the towns of Oxford and Webster, at or near the property of Sarah Bragg Estate, southerly, over a new location, to a point on Oxford Road about 500

feet north of the crossing of the Boston & Albany Railroad. Received Dec. 8, 1932.

**SELECTMEN OF YARMOUTH:** — Road extending from a point on Main Street about 900 feet southwest of South Street, northeasterly, over a new location to the junction of Main and Bridge Streets. Received Dec. 12, 1932.

**SELECTMEN OF DRACUT:** — Road extending from the dividing line between the city of Lowell and the town of Dracut, locally known as Riverside, Pleasant and Arlington Streets, easterly to the State highway leading from Lowell to Methuen, known as Broadway. Received Dec. 13, 1932.

**MAYOR AND BOARD OF STREET COMMISSIONERS OF BOSTON:** — Road extending from Boardman Street, at the 1932 State highway layout, to Bennington Street, in part over a new location and in part over Pope Street. Received Dec. 22, 1932.

**MAYOR AND CITY COUNCIL OF REVERE:** — Road extending from the Revere Beach Parkway, at or near Stowers Court, to Broadway, at or near Squire Road. Received Jan. 26, 1933.

**SELECTMEN OF OXFORD:** — Road extending from the 1921 State highway layout to the 1916 State highway layout, about nine-tenths of a mile in length, locally known as Main Street. Received Feb. 6, 1933.

**SELECTMEN OF GEORGETOWN:** — Road extending from the dividing line between the towns of Boxford and Georgetown, locally known as Central, North and Pond Streets, to the dividing line between the towns of Georgetown and Groveland. Received Feb. 11, 1933.

**SELECTMEN OF WEST NEWBURY:** — Road extending from the dividing line between the towns of West Newbury and Groveland, locally known as Georgetown, Maple and Church Streets, to the dividing line between the towns of Merrimac and West Newbury.

**SELECTMEN OF GROVELAND:** — Road extending from the dividing line between the towns of Georgetown and Groveland to the dividing line between the towns of Groveland and West Newbury, locally known as Pond Street and J. B. Little Road. Received Feb. 25, 1933.

**SELECTMEN OF UXBRIDGE:** — Road extending from the Rhode Island State line to connect with a road leading to Providence, Rhode Island. Received Dec. 29, 1932.

**SELECTMEN OF BROOKLINE:** — Road extending from the dividing line between the town of Brookline and the city of Newton, easterly over Boylston Street to a point about 1,100 feet easterly of Jefferson Road. Received May 5, 1933.

**SELECTMEN OF BLANDFORD:** — Road extending from Blandford Village to the dividing line between the towns of Russell and Blandford, locally known as the Blandford and Russell Stage Road. Received May 15, 1933.

**SELECTMEN OF BLANDFORD:** — Road extending from Blandford Village to the dividing line between the towns of Blandford and Otis, locally known as the Main Road. Received May 29, 1933.

**SELECTMEN OF HAMILTON:** — Road locally known as Main Street, extending from Bridge Street to a point in front of the Congregational Church Grounds. Received June 1, 1933.

**SELECTMEN OF BROOKLINE:** — Road extending from a point on Boylston Street about 1100 feet easterly of Jefferson Road easterly over Boylston Street to Washington Street; thence along Washington Street to the dividing line between the town of Brookline and the city of Boston. Received July 20, 1933.

**MAYOR AND BOARD OF ALDERMEN OF WOBURN:** — Road on the main highway from Woburn to Wilmington between the 1912 and 1913 State highway layouts. Received Aug. 22, 1933.

**SELECTMEN OF WEST SPRINGFIELD:** — Road extending from the West



Springfield terminus of the North End Bridge northerly to the dividing line between the town of West Springfield and the city of Holyoke, locally known as Riverdale Street. Received Sept. 15, 1933.

**SELECTMEN OF NEWBURY:** — Road extending from the dividing line between the towns of Newbury and Georgetown to the dividing line between the towns of Newbury and West Newbury, locally known as Main Street. Also a road extending from the dividing line between the towns of Newbury and West Newbury, near the Rock Farm, so called, over Scotland Road and new location, to the Newburyport Turnpike, near the Little River Bridge. Received Oct. 17, 1933.

**SELECTMEN OF GEORGETOWN:** — Road extending from the dividing line between the towns of Georgetown and Boxford to the dividing line between the towns of Newbury and Georgetown, locally known as Andover and North Streets. Received Oct. 17, 1933.

**SELECTMEN OF WEST NEWBURY:** — Road extending from the dividing line between the towns of West Newbury and Newbury, on South Street near Great Rock, to the dividing line between the towns of Newbury and West Newbury on South Street on the road to Newburyport. Received Oct. 17, 1933.

**SELECTMEN OF NORTH ATTLEBOROUGH:** — Road extending from the dividing line between the towns of Plainville and North Attleborough to the junction of North Washington Street and the new By-Pass Road, locally known as Park Street. Received Oct. 21, 1933.

**SELECTMEN OF BOURNE:** — Road on new location, extending from the intersection of Bridge Street and the State highway north of the Cape Cod Canal, northeasterly and southeasterly to the northerly side of the Cape Cod Canal, at a point about 3,000 feet easterly from existing Bourne highway bridge across the canal; and beginning again at or near the southerly side of the canal, at a point about 3,000 feet easterly from said Bourne Bridge and extending southerly to a point on the 1932 layout of the State highway leading to Falmouth, about 8,000 feet southerly from Trading Post Corner. Received Oct. 23, 1933.

**SELECTMEN OF BOURNE:** — Road on new location extending from the dividing line between the towns of Bourne and Plymouth, at the State highway locally known as Plymouth Road, southerly, to the northerly side of the Cape Cod Canal, at a point about 350 feet southwesterly of the intersection of Hunter Brook Road with the State highway north of the Canal; and beginning again at or near the southerly side of the Canal, at a point about 1200 feet northeasterly from the intersection of Adams Street with the State highway south of the Canal, and extending southerly and easterly to a point on said State highway about 1,500 feet westerly of the dividing line between the towns of Bourne and Sandwich. Received Oct. 23, 1933.

**SELECTMEN OF FAIRHAVEN:** — Road extending from the intersection of Huttleston Avenue and Adams Street, southeasterly, in part over new location and in part over Spring and Washington Streets, to the end of the present State highway on Washington Street, near Alden Road. Received Oct. 30, 1933.

**SELECTMEN OF OTIS:** — Road extending from the dividing line between the towns of Otis and Blandford, to the State highway in Otis Village, locally known as Blandford Road and East Otis Road, also a road extending from the State highway in Otis Village to the dividing line between the towns of Otis and Monterey, locally known as Monterey Road and West Otis Road. Received Oct. 30, 1933.

**SELECTMEN OF LINCOLN:** — Road extending from the State highway, locally known as Lexington Road, at or near its intersection with Brooks Road, southwesterly, over new location, to the dividing line



between the towns of Lincoln and Concord, near Concord Avenue. Received Oct. 27, 1933.

SELECTMEN OF EAST BRIDGEWATER:—Road extending from Bedford Street to the dividing line between the towns of East Bridgewater and Halifax, locally known as Whitman and Plymouth Streets. Received Nov. 7, 1933.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS  
(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities:—

*Middleborough*

Dec. 27, 1932, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing about 27,906 feet of State highway on Wareham Street; the surface consisting of bituminous macadam. The proposal amounted to \$56,452.50. Work completed July 15, 1933. Expenditure during 1933, \$53,669.16.

*Yarmouth*

Jan. 3, 1933, contract made with Sidney W. Lawrence, of Falmouth, for constructing and reconstructing about 26,805 feet of State highway on Main Street; the surface consisting of bituminous concrete. The proposal amounted to \$112,159.20. Work practically completed. Expenditure during 1933, \$109,273.66.

*Cohasset-Scituate*

Jan. 3, 1933, contract made with C. M. Callahan, Inc., of Boston, for constructing about 10,512 feet of State highway in Cohasset and about 20,300 feet of State highway in Scituate; the surface consisting of bituminous macadam. The proposal amounted to \$206,066.10. Work practically completed. Expenditure during 1933, \$167,233.01.

*Pittsfield*

Jan. 31, 1933, contract made with the Lee Construction Co., Inc., of Boston, for reconstructing a steel bridge with approaches on about 652 feet of State highway on Lebanon Road; the surface consisting of reinforced cement concrete. The proposal amounted to \$37,273.37. Work completed October 5, 1933. Expenditure during 1933, \$42,160.22.

*Oxford-Webster*

Feb. 21, 1933, contract made with the C. & R. Construction Company, of Boston, for constructing and reconstructing about 11,878 feet of State highway on Main Street in Oxford, and about 6,100 feet of State highway on Oxford Road in Webster, the surface consisting of bituminous macadam. The proposal amounted to \$125,452.90. Work completed November 7, 1933. Expenditure during 1933, \$132,186.29.

*Yarmouth*

June 6, 1933, contract made with John Burke, of Barnstable, for moving buildings of William W. Howard on the State highway in Yarmouth. The proposal amounted to \$1,173.00. Work completed October 27, 1933. Expenditure during 1933, \$1,312.89.

*Wellesley*

June 27, 1933, contract made with F. Pritchard & Son, Inc., of Watertown, for moving building of Jeannette Stanwood on the Boston-Worcester Turnpike. The proposal amounted to \$790.00. Work completed July 24, 1933. Expenditure during 1933, \$790.00.



*Eastham*

July 5, 1933, contract made with Sidney W. Lawrence, of Falmouth, for reconstructing about 2,050 feet of State highway; the surface consisting of bituminous concrete. The proposal amounted to \$9,326.50. Work completed September 20, 1933. Expenditure during 1933, \$11,827.48.

*Newbury*

Aug. 22, 1933, contract made with Ellsworth H. Lewis, of Andover, for reconstructing about 16,091 feet of State highway on High Street; the surface consisting of bituminous macadam. The proposal amounted to \$85,065.95. Work completed November 29, 1933. Expenditure during 1933, \$87,145.78.

*Williamstown*

Aug. 22, 1933, contract made with J. F. Fitzgerald Construction Company, of Boston, for reconstructing about 5,700 feet of State highway on Pownal Road, and about 950 feet of town highway on the same road in Williamstown; the surface consisting of bituminous macadam. The proposal amounted to \$103,975.63. Work about one-third completed. Expenditure during 1933, \$39,195.13.

*Amesbury*

Aug. 23, 1933, contract made with James E. Watkins Company, Inc., of Amesbury, for constructing about 4,199 feet of State highway on Main Street and new location; the surface consisting of bituminous macadam. The proposal amounted to \$41,743.60. Work about one-half completed. Expenditure during 1933, \$29,723.17.

*Huntington*

Aug. 23, 1933, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 28,113 feet of State highway on the Worthington Road; the surface consisting of bituminous macadam. The proposal amounted to \$129,155.40. Work about one-half completed. Expenditure during 1933, \$54,711.63.

*Lanesborough-Pittsfield*

Aug. 23, 1933, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 1,831 feet of State highway on North Adams Street in Lanesborough, and about 7724 feet of State highway on the same street in Pittsfield; the surface consisting of reinforced cement concrete. The proposal amounted to \$65,500.90. Work practically completed. Expenditure during 1933, \$60,957.77.

*Williamstown*

Sept. 5, 1933, contract made with the American Bridge Company, of Boston, for constructing a steel bridge superstructure over the Hoosic River and the Boston & Maine Railroad on Pownal Road. The proposal amounted to \$44,696.10. Work just commenced. No expenditure during 1933.

*Wareham*

Sept. 6, 1933, contract made with Sidney W. Lawrence, of Falmouth, for reconstructing about 8,556 feet of State highway on Agawam Road; the surface consisting of bituminous macadam. The proposal amounted to \$54,152.20. Work about one-third completed. Expenditure during 1933, \$17,664.55.

*Brookline-Newton*

Sept. 13, 1933, contract made with Coleman Bros., Incorporated, of Boston, for constructing about 1,655 feet of State highway on Boylston

Street in Newton, and about 4,100 feet of State highway on the same street in Brookline, and constructing a rigid frame concrete bridge with stone facing over Hammond Pond Parkway in Newton; the surface consisting of reinforced cement concrete on each side of a loam section but separated therefrom by bituminous concrete shoulders. The proposal amounted to \$208,363.00. Work about one-sixth completed. Expenditure during 1933, \$32,506.19.

*Conway-Deerfield*

Sept. 13, 1933, contract made with Kelleher Corporation, of Montague, for reconstruction about 4,579 feet of State highway on Conway Road in Deerfield, and about 5,630 feet of State highway on the same road in Conway; the surface consisting of bituminous macadam. The proposal amounted to \$206,730.30. Work about one-fourth completed. Expenditure during 1933, \$55,493.00.

*Burlington-Winchester-Woburn*

Oct. 11, 1933, contract made with M. McDonough Co., of Saugus, for reconstructing about 10,120 feet of State highway on Cambridge Street in Winchester, about 10,537 feet of State highway on the same road in Woburn, and about 19,850 feet of state highway on the same road in Burlington; the surface consisting of bituminous macadam. The proposal amounted to \$121,478.40. Work about one-sixth completed. Expenditure during 1933, \$53,328.19.

*Boston-Revere*

Oct. 18, 1933, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for constructing two three-span deck steel stringer bridges with reinforced concrete floors in Boston, and a two-span deck plate girder bridge with reinforced concrete floor, and a three-span deck plate girder bridge with reinforced concrete floor, in Revere. The proposal amounted to \$70,379.88. Work just commenced. No expenditure during 1933.

*Templeton*

Nov. 1, 1933, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 15,852 feet of State highway on the Baldwinsville-Phillipston Road; the surface consisting of bituminous macadam. The proposal amounted to \$66,464.95. Work just commenced. Expenditure during 1933, \$952.00.

*Ashby-Townsend*

Nov. 14, 1933, contract made with G. Rotondi & Son, of Melrose, for reconstructing about 21,672 feet of State highway on Ashby Road and Willard Brook Road in Ashby and Townsend; the surface consisting of bituminous macadam. The proposal amounted to \$124,161.74. Work just commenced. Expenditure during 1933, \$1,258.00.

*Chester*

Nov. 14, 1933, contract made with the National Construction Company, of Everett, for reconstructing 1,624 feet of State highway on the Jacobs Ladder Road; the surface consisting of bituminous macadam. The proposal amounted to \$48,337.45. Work not yet commenced.

*Boston-Revere*

Nov. 14, 1933, contract made with A. G. Tomasello & Son, Inc., of Boston, for constructing about 6,540 feet of State highway in Boston, and about 5,790 feet of State highway in Revere; the surface consisting of sections of reinforced cement concrete, bituminous macadam, sheet asphalt, and plain cement concrete. The proposal amounted to \$441,168.25. Work not yet commenced.



*Sterling-West Boylston*

Nov. 14, 1933, contract made with Mario Pandolph Company, Inc., of Needham, for reconstructing about 26,076 feet of State highway on Worcester Street, Sterling Road and West Boylston Road in Sterling and West Boylston; the surface consisting of sections of bituminous macadam with reinforced cement concrete on each side, and bituminous macadam full width. The proposal amounted to \$191,178.50. Work just commenced. Expenditure during 1933, \$2,890.85.

*Boston-Revere*

Nov. 14, 1933, contract made with Anthony Baruffaldi, of Somerville, for constructing the substructures for two three-span deck steel stringer bridges with reinforced concrete floors in Boston, and the substructure for a three-span deck steel stringer bridge with reinforced concrete floor and a two-span deck steel stringer bridge with reinforced concrete floor in Revere; the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$183,298.25. Work just commenced.

*Charlton-Oxford*

Nov. 14, 1933, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 22,217 feet of State highway on Charleton Road in Oxford, and about 6,600 feet of State highway on Oxford Road in Charlton; the surface consisting of bituminous macadam. The proposal amounted to \$109,669.60. Work not yet commenced.

*Marshfield-Scituate*

Nov. 15, 1933, contract made with the Lee Construction Co., Inc., of Boston, for reconstructing about 5,996 feet of State highway on Bridge Street in Marshfield, and about 531 feet of State highway on Main Street in Scituate; the surface consisting of bituminous macadam. The proposal amounted to \$86,500.00. Work not yet commenced.

*Marshfield-Scituate*

Nov. 23, 1933, contract made with the Lee Construction Co., Inc., of Boston, for constructing a creosoted timber pile bridge at the dividing line between the towns of Marshfield and Scituate; the surface on the draw span of the bridge consisting of a structural steel grid floor with a cement concrete filler, and the surface on the rest of the bridge consisting of bituminous concrete. The proposal amounted to \$51,394.75. Work just commenced. Expenditure during 1933, \$493.00.

*Easton-Stoughton*

Nov. 29, 1933, contract made with Carlo Bianchi and Company, Inc., of Framingham, for reconstructing about 15,550 feet of State highway on Washington Street in Easton, and about 11,460 feet of State highway on the same road in Stoughton; the surface consisting of reinforced cement concrete and bituminous macadam. The proposal amounted to \$143,788.00. Work not yet commenced.

## EXPENDITURES FOR CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various Counties during the year were:—

Barnstable, \$274,246.73

Berkshire, \$20,709.56

Bristol, \$324,121.47

Essex, \$126,070.33

Franklin, \$363.10

Hampden, \$1,235.14

Hampshire, \$110,545.90

Middlesex, \$760,538.27

Norfolk, \$1,949,595.94

Plymouth, \$374,679.48

Suffolk, \$293,992.35

Worcester, \$100,900.59

Total, \$4,336,998.86

Details of the foregoing expenditures follow:—

*Barnstable County*.—Barnstable, \$90,757.30; Bourne, \$130,286.66; Yarmouth, \$53,202.77.

*Berkshire County*.—Hinsdale, \$88.80; Pittsfield, \$20,620.76.

*Bristol County*.—No. Attleboro, \$2,692.01; Raynham, \$223,260.81; Seekonk, \$5,502.13; Taunton, \$92,666.52.

*Essex County*.—Amesbury, \$46,816.33; Lynn, \$396.49; No. Andover, \$5,710.44; Salisbury, \$73,147.07.

*Franklin County*.—Orange, \$363.10.

*Hampden County*.—Chester, \$1,235.14.

*Hampshire County*.—Belchertown, \$2,269.09; Huntington, \$67,328.75; Worthington, \$40,948.06.

*Middlesex County*.—Arlington, \$18,034.64; Belmont, \$7,003.66; Cambridge, \$3,914.41; Newton, \$731,585.56.

*Norfolk County*.—Brookline, \$5,742.09; Cohasset, \$138,832.68; Dedham, \$347,302.83; Norwood, \$134,531.98; Quincy, \$21,992.84; Wellesley, \$1,160,443.57; Westwood, \$126,081.94; Weymouth, \$14,668.01.

*Plymouth County*.—Duxbury, \$723.99; Hingham, \$178,370.06; Kingston, \$228.54; Lakeville, \$26,545.69; Marshfield, \$27.47; Middleboro, \$31,937.19; Pembroke, \$441.26; Scituate, \$136,405.28.

*Suffolk County*.—Boston, \$100,152.39; Revere, \$193,839.96.

*Worcester County*.—Athol, \$299.19; Hopedale, \$625.00; Mendon, \$450.62; Milford, \$1,029.52; Oxford, \$30,478.42; Webster, \$35,080.67; Westboro, \$646.73; West Boylston, \$29,595.09; Worcester, \$2,695.35.

#### EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 119, ACTS OF 1931 Hingham-Hull, \$36.90

#### EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 122, ACTS OF 1931 For State Highway Construction

Auburn- Worcester	\$86,657.03	Lakeville-Middleboro	\$41,456.15
Erving-Gill	41,142.72	Millbury-Worcester	64,573.75
Erving	1,346.86	Northboro-Shrewsbury	2,013.39
Foxboro-Sharon-Walpole-		Sharon-Norwood-Walpole	40,609.04
Wrentham	22,296.49	Shrewsbury-Worcester	88,897.39
Framingham-Natick	346,894.45	Uxbridge (Ironstone St.)	52,649.74
Framingham-Southboro	28,258.32	Uxbridge (Millville Rd.)	23.00
Gill-Greenfield	52,905.57	Williamstown	535.50
			<hr/>
			\$870,259.40

#### MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Charter 81, General Laws). The expenditures during the year in various counties were:—

Barnstable, \$192,256.61	Hampshire, \$169,885.06
Berkshire, \$753,907.35	Middlesex, \$394,777.86
Bristol, \$216,890.39	Nantucket, \$110.08
Dukes, \$9,206.57	Norfolk, \$190,129.01
Essex, \$579,420.82	Plymouth, \$326,907.72
Franklin, 154,755.79	Suffolk, \$27,494.52
Hampden, \$180,655.64	Worcester, \$597,084.14
	Total, \$3,793,481.56

Details of the foregoing expenditures follow:—

*Barnstable County*.—Barnstable, \$8,025.90; Bourne, \$9,436.93; Brewster, \$2,492.80; Chatham, \$3,498.92; Dennis, \$2,719.12; Eastham, \$18,592.83; Falmouth, \$11,210.20; Harwich, \$3,024.81; Mashpee, \$3,519.52; Orleans, \$3,718.03; Provincetown, \$2,040.03; Sandwich, \$9,629.06; Truro, \$2,952.68; Wellfleet, \$3,429.90; Yarmouth, \$107,965.88.



*Berkshire County*.—Adams, \$6,549.30; Becket, \$14,225.00; Cheshire, \$11,905.28; Clarksburg, \$1,134.65; Dalton, \$8,464.84; Egremont, \$50,-221.36; Florida, \$5,610.14; Great Barrington, \$12,198.25; Hancock, \$233,-708.06; Hinsdale, \$1,615.30; Lanesboro, \$27,802.68; Lee, \$44,112.99; Lenox, \$39,138.88; New Ashford, \$641.30; New Marlboro, \$48.26; No. Adams, \$7,875.35; Otis, \$1,570.42; Pittsfield, \$188,048.32; Richmond, \$1,035.63; Sandisfield, \$1,402.08; Savoy, \$3,801.70; Sheffield, \$4,434.95; Stockbridge, \$40,456.48; Washington, \$1,879.05; West Stockbridge, \$262.32; Williamstown, \$42,107.31; Windsor, \$3,657.45.

*Bristol County*.—Acushnet, \$1,282.17; Attleboro, \$3,050.62; Berkley, \$3,668.88; Dartmouth, \$2,979.04; Dighton, \$22,407.26; Easton, \$20,-048.18; Fairhaven, \$21,777.44; Fall River, \$80.82; Freetown, \$11,569.93; Mansfield, \$9,906.02; Norton, \$9,362.70; North Attleboro, \$5,228.96; Raynham, \$7,355.08; Rehoboth, \$7,092.48; Seekonk, \$4,522.43; Somerset, \$43,553.31; Swansea, \$11,616.51; Taunton, \$21,868.62; Westport, \$9,-519.94.

*Dukes County*.—Chilmark, \$1,978.21; Edgartown, \$2,768.07; Gay Head, \$678.88; Oak Bluffs, \$468.68; Tisbury, \$556.50; West Tisbury, \$2,756.23.

*Essex County*.—Amesbury, \$3,295.02; Andover, \$8,708.24; Beverly, \$6,617.50; Danvers, \$7,918.13; Essex, \$16,205.22; Gloucester, \$6,140.28; Groveland, \$614.65; Hamilton, \$29,870.14; Haverhill, \$12,918.33; Ipswich, \$56,197.20; Lawrence, \$470.30; Lynn, \$2,791.03; Lynnfield, \$13,568.31; Merrimac, \$935.74; Methuen, \$5,484.50; Middleton, \$82,178.11; Newbury, \$130,550.57; Newburyport, \$2,836.36; North Andover, \$28,861.83; Peabody, \$3,986.01; Rockport, \$538.03; Rowley, \$6,218.97; Salem, \$6,-560.91; Salisbury, \$17,771.16; Saugus, \$16,349.41; Swampscott, \$3,388.79; Topsfield, \$5,457.94; Wenham, \$6,176.13; West Newbury, \$96,812.01.

*Franklin County*.—Ashfield, \$2,497.28; Bernardston, \$2,126.54; Buckland, \$1,872.52; Charlemont, \$11,397.75; Colrain, \$769.38; Conway, \$33,-477.82; Deerfield, \$45,201.89; Erving, \$9,516.95; Gill, \$5,169.96; Greenfield, \$5,072.92; Montague, \$1,885.02; Northfield, \$7,114.30; Orange, \$15,-985.55; Shelburne, \$7,451.65; Sunderland, \$3,075.27; Whately, \$2,140.99.

*Hampden County*.—Agawam, \$28,216.67; Blandford, \$1,946.01; Brimfield, \$8,856.44; Chester, \$9,785.89; Chicopee, \$1,493.60; East Longmeadow, \$1,010.47; Holland, \$10.29; Holyoke, \$2,327.58; Monson, \$1,-383.15; Palmer, \$10,493.91; Russell, \$7,058.05; Southwick, \$5,139.27; Tolland, \$25.59; Wales, \$7,202.91; Westfield, \$73,275.75; West Springfield, \$8,703.21; Wilbraham, \$13,726.85.

*Hampshire County*.—Amherst, \$5,284.75; Belchertown, \$73,555.04; Cummington, \$12,297.40; Easthampton, \$927.67; Goshen, \$6,398.87; Granby, \$18,713.20; Hadley, \$2,139.95; Hatfield, \$1,703.88; Huntington, \$7,233.41; Northampton, \$3,830.35; Southampton, \$6,804.27; South Hadley, \$15,983.56; Ware, \$6,309.29; Williamsburg, \$3,055.87; Worthington, \$5,647.55.

*Middlesex County*.—Acton, \$7,080.81; Arlington, \$12,819.85; Ashby, \$15,791.86; Ashland, \$6,121.39; Ayer, \$2,688.60; Bedford, \$536.20; Billerica, \$20,050.40; Boxboro, \$3,730.20; Burlington, \$35,126.13; Chelmsford, \$18,804.76; Concord, \$4,364.62; Dracut, \$16,827.75; Framingham, \$19,-229.31; Groton, \$33,467.08; Holliston, \$4,788.22; Hudson, \$19,828.32; Lexington, \$3,935.26; Lincoln, \$785.90; Littleton, \$4,774.81; Lowell, \$1,-467.82; Malden, \$89.82; Marlboro, \$8,813.47; Medford, \$518.37; Melrose, \$575.67; Natick, \$6,917.51; Newton, \$4,134.90; North Reading, \$1,835.86; Pepperell, \$15,546.51; Reading, \$7,042.91; Shirley, \$2,648.56; Somerville, \$1,399.40; Stoneham, \$2,191.15; Sudbury, \$7,466.35; Tewksbury, \$19,-778.64; Townsend, \$1,053.82; Tyngsboro, \$5,813.18; Waltham, \$13,148.69; Watertown, \$634.94; Wayland, \$2,969.92; Westford, \$4,265.08; Weston, \$5,259.33; Wilmington, \$5,038.35; Winchester, \$25,853.50; Woburn, \$19,-562.64.

*Nantucket County*.—Nantucket, \$110.08.

*Norfolk County*.—Avon, \$1,330.64; Bellingham, \$4,015.17; Braintree, \$28,009.75; Canton, \$3,728.77; Cohasset, \$1,771.75; Dedham, \$21,429.67; Dover, \$929.17; Foxboro, \$2,340.39; Franklin, \$1,166.31; Holbrook, \$12,848.17; Milton, \$19,182.98; Needham, \$11,149.05; Norfolk, \$439.14; Norwood, \$6,048.11; Plainville, \$3,767.52; Quincy, \$1,850.36; Randolph, \$7,391.72; Sharon, \$1,162.12; Stoughton, \$12,552.02; Walpole, \$5,996.38; Wellesley, \$5,612.27; Westwood, \$3,407.97; Weymouth, \$19,129.93; Wrentham, \$14,869.65.

*Plymouth County*.—Abington, \$3,116.79; Bridgewater, \$1,609.49; Brockton, \$5,388.06; Duxbury, \$2,261.91; East Bridgewater, \$7,559.53; Hanover, \$1,746.55; Hingham, \$6,631.30; Hull, \$448.21; Kingston, \$1,145.62; Lakeville, \$11,759.96; Marion, \$2,193.78; Marshfield, \$2,804.70; Mattapoisett, \$70,771.40; Middleboro, \$84,403.85; Norwell, \$2,002.43; Pembroke, \$1,785.72; Plymouth, \$9,044.18; Rochester, \$9,534.24; Rockland, \$1,223.24; Scituate, \$4,618.04; Wareham, \$77,517.13; West Bridgewater, \$1,404.74; Whitman, \$17,936.85.

*Suffolk County*.—Boston, \$3,155.99; Chelsea, \$696.38; Revere, \$23,642.15.

*Worcester County*.—Ashburnham, \$9,560.22; Athol, \$3,503.58; Auburn, \$6,522.39; Barre, \$2,809.68; Blackstone, \$8,110.17; Brookfield, \$2,027.55; Charlton, \$37,884.67; Clinton, \$10.88; Douglas, \$446.72; Dudley, \$2,643.10; East Brookfield, \$3,149.27; Fitchburg, \$2,023.86; Gardner, \$2,218.46; Grafton, \$10,998.41; Hardwick, \$272.71; Harvard, \$15,823.49; Holden, \$6,265.11; Hopedale, \$158.64; Lancaster, \$13,885.66; Leicester, \$2,154.36; Leominster, \$803.84; Lunenburg, \$2,239.22; Mendon, \$3,407.11; Milford, \$1,998.67; Millbury, \$3,125.93; Millville, \$13,579.76; New Braintree, \$77.05; North Brookfield, \$512.71; Northboro, \$18,817.60; Northbridge, \$3,239.60; Oakum, \$76,115.60; Oxford, \$109,961.69; Paxton, \$5,626.80; Petersham, \$2,854.19; Phillipston, \$840.68; Princeton, \$19,445.27; Rutland, \$25,921.45; Shrewsbury, \$50,768.77; Southboro, \$3,939.61; Southbridge, \$1,706.35; Spencer, \$2,294.83; Sterling, \$4,567.89; Sturbridge, \$5,219.65; Sutton, \$6,890.82; Templeton, \$5,780.34; Upton, \$5,601.49; Uxbridge, \$15,990.51; Warren, \$1,801.99; Webster, \$17,819.61; West Boylston, \$6,339.53; West Brookfield, \$1,204.57; Westboro, \$7,532.56; Westminster, \$8,957.94; Winchendon, \$14,694.51; Worcester, \$16,937.07.

Miscellaneous expenditures are as follows:—

Truck repairs . . . . .	\$14,010.15	
Truck operation . . . . .	3,038.90	
Truck plow repairs . . . . .	17,547.28	
Tractor repairs . . . . .	11,673.15	
Tractor operation . . . . .	2,535.20	
Tractor plow repairs . . . . .	12,946.41	
Snow fence . . . . .	1,048.33	
Expenditures under towns . . . . .	443,269.84	
		\$506,069.26
Warning signs . . . . .	18,388.70	
Direction signs . . . . .	51,534.42	
Regulatory signs . . . . .	1,189.66	
Control signals . . . . .	50,622.07	
Traffic survey . . . . .	22,600.77	
Traffic permits . . . . .	1,021.45	
Traffic census . . . . .	8,614.41	
		153,971.48
Somerset Bridge . . . . .	16,703.60	
Newburyport Bridge . . . . .	11,350.43	
Fairhaven-New Bedford Bridge . . . . .	14,486.01	
		42,540.04



30	P. D. 54
Detour bulletins . . . . .	1,154.15
Construction of D St. garage . . . . .	40,802.91
Heating Plant at D St. garage . . . . .	7,093.80
	<hr/>
Total of miscellaneous expenditures . . . . .	\$751,631.64

### REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The cooperation of the Department with officers of cities, towns and counties, in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,768 miles of highways on the principal routes of travel, 1,612 miles of which are State highways and 156 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$506,069.26, which includes the cost of maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces.

### UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth was placed in the Department of Public Works by chapter 257 of the Acts of 1928. The Department is thereby enabled to insure that all traffic control signals to be erected by the municipalities shall conform to standards adopted by the Department and cooperates with the cities and towns for the purpose of properly locating and operating such signals. All through ways desired by the municipalities must first be approved by the Department before such may become effective.

In order to secure uniformity in the matter of traffic control, the Department has issued four bulletins which present the standards required to be met by the cities and towns of the State for the installation and maintenance of traffic signs, signals and devices and traffic regulations for the control of traffic.

### TRAFFIC CONTROL SIGNALS AND REGULATIONS APPROVED

During the year the Department has issued permits to cities and towns for the following traffic control features:

	In 1933
Traffic Signals, at intersections . . . . .	141
Traffic Beacons . . . . .	9
Through Ways . . . . .	2
Traffic Signs and Markings . . . . .	57
Traffic Rules and Regulations . . . . .	82
Isolated Stop Signs . . . . .	97

Such information included the type of district, layout of the roadway, means of traffic control, atmospheric conditions, light conditions, condition of roadway, physical obstructions in the roadway and obstructions

to view. This information is required in reports submitted to the Registry of Motor Vehicles and is supplied to the traffic engineering section for study.

DIRECTION SIGNS, ROUTE MARKERS, WARNING SIGNS AND TRAFFIC CONTROL SIGNALS ERECTED BY DEPARTMENT

The Department has given a great deal of study to the determination of the important routes of travel for the purpose of marking and furnishing direction signs as aids for traveling.

The placing of route numbers and direction signs at points of advantage on these designated highways is done by the Department both on State highways and on city and town ways, permission for the latter being obtained from the local authorities. Warning signs and traffic control signals which are erected and maintained by the Department are placed only on State highways.

At locations where the hazard was particularly great and where traffic signals could not be used, neon tubes forming the legend were erected. This type of sign is especially advantageous on foggy nights since it has greater penetrating power than any light or reflector unit.

The manufacture of many of these signs and the erection and maintenance of all of these signs and signals are part of the highway maintenance activities.

TRAFFIC ACCIDENT STUDIES

Studies have been continued to ascertain the attendant circumstances and physical characteristics at points on the highways where accidents have occurred, in order to measure the effectiveness of control or lack of control of traffic movements at such points.

TRAFFIC COUNT

In 1909 the Massachusetts Highway Commission commenced recording by actual count the number and types of vehicles on the important State highways and since that time traffic counts have been taken every three years. The Department now obtains information not only for State highways but also for other important routes.

Only seventeen stations selected for the traffic counts of the various years have been identical throughout this study. The growth of traffic volume is indicated by the following tabulation, which gives the average number of vehicles per day per station for these seventeen stations.

Year of Count	Average number of vehicles per day per station
1909	364
1912	631
1915	920
1918	1676
1921	2465
1924	4517
1927	4977
1930	6468
1933	5481

The reduction during 1933 is due probably to the fact that three of these stations are now on by-passed routes.

The traffic count of this year is taken at stations, principally intersections, on the various numbered routes. The tabulation below gives the average number of vehicles per day for an average day and for an average Sunday in August. Other data obtained but not printed herewith is used by the Department in various studies of highway traffic problems. The districts mentioned in tabulations are those outlined at the beginning of the report of the Department.



# MOTOR VEHICLE TRAFFIC AT INTERSECTIONS ON NUMBERED AUTOMOBILE ROUTES

The figures given below are calculated values based upon actual counts as modified by the daily variation factors of the key stations.

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
DISTRICT 1						
4	Adams . . . . .	116	—	1,012	—	499
22	Becket . . . . .	8-20	2,357	2,578	4,173	5,015
22A	Becket . . . . .	8-20	2,109	—	3,909	—
		Otis Rd.				
33	Blandford . . . . .	North St.	—	3,095	—	4,240
58	Cheshire . . . . .	8	—	4,071	—	5,272
63	Clarksburg . . . . .	8	1,523	—	2,223	—
70	Dalton . . . . .	8-9	5,578	5,374	7,343	6,675
92	Egremont . . . . .	17-41	2,421	2,668	3,118	3,467
116	Gr. Barrington . . . . .	7-17	7,562	—	9,736	—
116A	Gr. Barrington . . . . .	7-118	7,548	—	9,713	—
116B	Gr. Barrington . . . . .	7	6,922	7,187	8,907	9,117
116C	Gr. Barrington . . . . .	17-41	3,168	3,158	4,080	4,107
125	Hancock . . . . .	2	453	—	603	—
136	Hinsdale . . . . .	8-143	3,646	2,051	4,818	2,364
147	Huntington . . . . .	66-112	676	631	1,195	727
147A	Huntington . . . . .	20-112	5,224	3,672	9,139	5,029
152	Lanesboro . . . . .	7	3,183	2,588	4,289	3,343
154	Lee . . . . .	20-102	4,629	5,014	5,861	6,867
156	Lenox . . . . .	7-20	7,339	7,652	9,372	10,235
156A	Lenox . . . . .	20	—	—	—	—
156B	Lenox . . . . .	7-20	7,465	7,872	9,529	10,547
213	No. Adams . . . . .	2	—	—	—	—
213A	No. Adams . . . . .	8	4,860	—	7,143	—
213B	No. Adams . . . . .	2-8	—	5,961	—	7,158
229	Otis . . . . .	8	1,136	1,351	2,032	1,350
240	Pittsfield . . . . .	8-9	14,278	8,750	19,059	11,332
240A	Pittsfield . . . . .	20-41	5,266	5,370	4,639	6,956
260	Russell . . . . .	20	3,825	5,712	7,092	7,822
265	Sandisfield . . . . .	8	—	909	—	1,244
272	Sheffield . . . . .	7	3,586	3,527	3,527	4,587
288	Stockbridge . . . . .	7-141	6,606	—	8,507	—
288A	Stockbridge . . . . .	141	2,731	—	3,782	—
288B	Stockbridge . . . . .	102-183	—	1,552	—	2,079
338	W. Stockbridge . . . . .	41-102	1,393	1,324	1,836	1,775
346	Williamstown . . . . .	7	4,821	—	6,500	—
346A	Williamstown . . . . .	7-43	2,961	2,422	4,093	2,904
346B	Williamstown . . . . .	2-7	13,352	—	18,466	—
346D	Williamstown . . . . .	2-7	1,415	3,072	1,912	3,683
346C	Williamstown . . . . .	2-7	—	6,198	—	7,431
350	Windsor . . . . .	109	2,917	—	3,853	—
354	Worthington . . . . .	112-143	1,519	881	2,033	1,012
354A	Worthington . . . . .	112-109-A	—	—	—	—
DISTRICT 2						
5	Agawam . . . . .	Alt. 5	5,051	4,472	6,761	5,078
8	Amherst . . . . .	9 & 116	5,059	4,116	7,036	5,225
13	Ashfield . . . . .	112 & 116	1,326	1,028	2,266	1,356
13A	Ashfield . . . . .	112 & 116	—	353	—	473
24	Belchertown . . . . .	21 & 139	—	1,462	—	1,907
24A	Belchertown . . . . .	21	3,549	2,719	5,486	3,888
29	Bernardston . . . . .	5 & 10	4,795	4,225	7,666	6,071
47	Buckland . . . . .	2 & 112	4,628	3,274	7,508	4,841
66	Colrain . . . . .	56	—	875	—	1,295
69	Cummington . . . . .	9 & 112	1,588	1,755	2,090	2,255
75	Deerfield . . . . .	5-10-116	7,198	6,943	11,322	9,153
75A	Deerfield . . . . .	116	—	—	—	—
88	Easthampton . . . . .	10	7,258	7,588	10,145	9,954
88A	Easthampton . . . . .	5	9,562	9,251	13,374	12,150
89	East Longmeadow . . . . .	83	—	3,285	—	3,731
93	Enfield . . . . .	21-109	2,606	—	4,188	—
94	Erving . . . . .	2-63	—	—	—	—
111	Goshen . . . . .	109-112	2,968	—	3,921	—
117	Greenfield . . . . .	2	7,049	—	11,194	—
117A	Greenfield . . . . .	5-10	6,684	10,684	7,868	11,305
117B	Greenfield . . . . .	5-10	7,502	11,992	6,293	9,043
117C	Greenfield . . . . .	2-2-A	—	5,651	—	8,782
121	Hadley . . . . .	9	4,331	—	7,010	—
121A	Hadley . . . . .	9	—	4,332	—	6,145
141	Holyoke . . . . .	5	12,661	12,804	17,012	14,516
141A	Holyoke . . . . .	5	—	—	—	—
141B	Holyoke . . . . .	5	15,792	26,244	18,978	24,900
214	Northampton . . . . .	5-10	9,470	—	14,814	—

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
214A	Northampton	5-10	-	4,726	-	6,699
220	Northfield	10-63	2,844	2,062	4,237	2,963
227	Orange	2-78	4,484	4,004	6,062	6,178
283	So. Hadley	116-139	6,794	7,117	7,558	8,509
284	Southwick	10-57	3,810	3,823	5,014	5,235
286	Springfield	5	-	-	-	-
286A	Springfield	20 21	9,207	12,399	12,338	14,082
286B	Springfield	20-20A	11,049	-	14,855	-
286C	Springfield	5-21	11,221	12,046	15,036	13,680
294	Sunderland	63-116	-	2,171	-	2,249
314	Ware	32-109	7,422	-	11,925	-
314A	Ware	9-32	-	4,059	-	5,782
330	Westfield	10	-	-	-	-
330A	Westfield	20	7,983	-	10,693	-
330B	Westfield	10-139	3,424	3,890	4,589	4,330
337	W. Springfield	5-20	18,320	21,041	24,555	24,106
337A	W. Springfield	5-20A	26,131	-	35,031	-
337B	W. Springfield	20-57	12,514	13,490	16,761	15,456
337C	W. Springfield	20	-	11,224	-	12,847
344	Wilbraham	20	7,032	-	11,153	-
345	Williamsburg	9-143	2,481	2,153	3,285	2,672

## DISTRICT 3

11	Ashburnham	118	1,110	1,637	1,971	2,559
15	Athol	2-32	6,526	5,176	9,067	8,109
15A	Athol	2	7,546	-	10,128	-
15B	Athol	2	-	5,758	-	8,882
17	Auburn	12	9,543	8,259	12,995	11,768
17A	Auburn	12-20	-	12,537	-	16,804
21	Barre	32-122	2,430	3,603	1,690	2,840
21A	Barre	32-67	1,557	2,321	1,090	1,832
28	Berlin	62	2,160	2,664	2,305	3,726
34	Bolton	117	1,644	2,372	1,554	2,517
34A	Bolton	110-117	2,647	3,817	3,354	5,424
39	Boylston	70	3,574	5,630	2,573	3,982
43	Brimfield	19-20	3,133	4,965	5,187	7,592
54	Charlton	20-93	4,195	6,664	8,800	12,040
71	Dana	21	-	713	-	1,113
81	Dudley	12-197	5,684	6,810	8,869	9,567
86	E. Brookfield	9-67	6,827	5,455	10,826	7,123
100	Fitchburg	2-12	10,696	9,895	19,275	15,366
100A	Fitchburg	2-120	7,706	5,592	13,368	8,683
106A	Fitchburg	2-68	9,019	-	13,511	-
113	Grafton	122-140	5,220	5,142	9,782	8,458
113A	Grafton	30-122	5,608	10,389	5,650	9,294
113B	Grafton	122-122A	6,087	5,832	9,002	9,594
129	Harvard	110-111	2,894	2,618	5,882	4,258
138	Holden	68-122A	2,664	1,727	3,707	2,697
138A	Holden	122A	4,592	3,505	6,385	5,476
138B	Holden	120-122A	5,617	3,695	7,816	5,772
144	Hubbardston	62-68	-	5,245	-	8,150
155	Leicester	9	9,445	7,501	15,161	11,060
157	Leominster	12	7,889	7,155	12,652	10,784
157A	Leominster	13	-	3,248	-	4,896
166	Lunenburg	2-2A	3,979	3,484	8,104	5,457
166A	Lunenburg	2-13	5,847	5,685	11,910	8,684
183	Mendon	126	3,239	2,550	5,116	5,375
189	Mildford	109-126	5,416	4,363	7,859	9,422
189A	Milford	140	2,697	2,709	4,055	4,784
189B	Milford	126-140	-	6,110	-	7,602
190	Millbury	122A	4,890	6,021	6,666	9,905
192	Millville	122	5,044	-	7,456	-
195	Monson	32	1,168	1,017	1,851	1,460
217	Northboro	9-20	-	13,091	-	20,773
217A	Northboro	20	-	6,714	-	9,938
218	Northbridge	122	5,041	5,026	6,505	6,239
230	Oxford	12-20	7,803	12,075	11,845	17,169
230A	Oxford	12	6,205	-	8,487	-
231	Palmer	20	6,094	5,929	10,150	8,979
231A	Palmer	32	2,355	2,467	3,922	3,514
231B	Palmer	32	2,240	2,173	3,729	3,290
232	Paxton	122	-	2,260	-	3,809
238	Petersham	32	1,869	1,757	2,786	2,953
246	Princeton	64-120	877	1,250	1,392	1,934
246A	Princeton	64-120	758	-	1,194	-
B	Quinebaug, Conn.	131-197	1,918	2,445	2,993	3,459
262	Rutland	122-122A	3,071	1,417	4,577	2,382
276	Shrewsbury	9	19,070	16,884	30,771	27,042
		{Main St.	12,701	6,946	20,492	10,982
		{Maple Ave.	-	-	-	-
276A	Shrewsbury	9	-	12,110	-	16,909
276B	Shrewsbury	20	-	6,304	-	9,714
276C	Shrewsbury	20	-	-	-	-



Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
281	Southboro	30-85	2,279	2,009	3,738	3,278
281R	Southboro	9	-	10,345	-	16,858
282	Southbridge	124A	3,438	-	5,853	-
282A	Southbridge	93-131	3,204	4,039	5,452	5,714
287	Sterling	12-62	3,747	3,512	6,009	5,294
287A	Sterling	62-64	-	1,840	-	2,847
292	Sturbridge	20	-	5,475	-	7,854
292A	Sturbridge	15-131	4,127	7,241	6,558	9,635
292B	Sturbridge	131	2,535	-	4,026	-
Manchaug Rd.						
295	Sutton	Hartford T'npike	-	918	-	1,300
299	Templeton	Rt. 2	5,187	4,382	7,269	6,803
299A	Templeton	2-32	4,456	3,601	6,245	5,591
299B	Templeton	32	5,903	2,711	8,266	4,209
308	Upton	140	-	-	-	-
309	Uxbridge	122-146	-	4,014	-	4,253
311	Wales	32	-	-	-	-
316	Warren	19	-	3,070	-	4,648
321	Webster	12-193	-	5,644	-	7,929
326	Westboro	135	1,957	789	3,213	1,247
326A	Westboro	9-30	1,998	10,065	3,277	16,421
326B	Westboro	9	-	11,058	-	18,104
327	W. Boylston	12-110	4,938	5,252	7,826	8,145
327A	W. Boylston	12-64	6,863	-	10,886	-
329	W. Brookfield	9-19	5,793	4,368	9,206	6,415
333	Westminster	2	-	-	-	-
333A	Westminster	2-64	7,163	6,890	10,033	10,696
333B	Westminster	64	-	1,061	-	1,647
348	Winchendon	12-64	2,480	2,670	3,449	4,171
348A	Winchendon	32	1,546	1,469	2,102	2,281
348B	Winchendon	12-32	7,219	5,085	10,104	7,895
353	Worcester	122	4,895	-	7,297	-
353A	Worcester	12	10,131	-	16,058	-
353B	Worcester	20	-	8,139	-	12,541
353C	Worcester	20	-	7,566	-	11,659
DISTRICT 4						
10	Arlington	2-3	-	15,664	-	21,644
12	Ashby	31-26-119	2,595	2,215	5,278	4,364
14	Ashland	135	3,642	-	6,054	-
19	Ayer	2	5,208	4,863	10,819	7,619
19A	Ayer	2-110-111	5,704	6,427	11,622	10,097
23	Bedford	2A-4-62	7,779	7,646	15,528	13,733
23A	Bedford	2A-4-62	8,101	7,628	16,734	13,959
23B	Bedford	2A-4	-	6,981	-	12,577
31	Billerica	3	5,874	4,019	11,039	7,649
48	Burlington	3-62	7,403	7,307	12,785	12,088
48A	Burlington	3-62	6,047	5,851	10,444	10,101
49	Cambridge	2-3	30,013	28,409	25,594	39,256
51	Carlisle	2A-126	1,372	2,154	2,740	3,879
56	Chelmsford	3-4-126	10,936	9,576	18,842	14,281
56A	Chelmsford	4-110	13,653	11,169	27,247	20,173
56B	Chelmsford	3	12,697	-	19,353	-
56C	Chelmsford	4-126	6,761	4,619	13,494	8,319
67	Concord	2-111	5,457	6,256	13,654	9,988
67A	Concord	117-126	2,252	1,966	4,870	2,752
67B	Concord	2	-	-	-	-
67C	Concord	2-62	8,519	9,733	21,162	15,539
67D	Concord	62	3,493	-	8,285	-
67E	Concord	62-126	-	11,601	-	16,016
67F	Concord	27-126	-	5,823	-	7,123
80	Dracut	113	-	1,556	-	2,328
103	Framingham	115	8,429	-	14,245	-
103A	Framingham	126-135	20,306	26,770	33,462	43,308
103B	Framingham	30	-	4,979	-	8,124
103C	Framingham Ctr.	9-126	-	17,540	-	23,818
103D	Framingham	9-30	-	13,369	-	21,811
103E	Framingham	9	-	12,196	-	19,898
119	Groton	2A-119	2,029	2,141	4,130	3,779
119A	Groton	2A-119	3,024	3,563	6,153	6,289
119B	Groton	111-119	2,992	2,869	6,088	5,010
140	Holliston	16-126	5,245	2,889	5,654	3,120
143	Hopkinton	85-135	2,709	2,513	4,216	2,713
145	Hudson	85	4,607	3,850	7,505	5,360
159	Lexington	2-128	11,048	11,482	25,597	15,797
159A	Lexington	2A	-	-	-	-
159B	Lexington	2	13,865	13,882	33,659	19,183
159C	Lexington	2-2A4	21,964	12,988	36,977	17,947
159D	Lexington	2	6,822	-	15,805	-
159E	Lexington	128	5,601	-	13,601	-
159F	Lexington	2A-4-128	-	15,939	-	21,531
161	Lincoln	117	4,591	-	7,699	-

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
161A	Lincoln	27-117	-	2,574	-	3,148
162						
162A	Littleton	2-110-119	9,334	8,983	16,586	14,604
164	Lowell	28-133	9,539	8,847	14,497	11,234
164A	Lowell	113	10,721	-	16,296	-
169	Malden	1-60	26,731	26,018	44,695	40,464
174	Marlboro	20	11,019	5,899	15,406	8,565
174A	Marlboro	20	12,442	7,488	17,397	10,872
174B	Marlboro	20-85	-	11,223	-	16,295
174C	Marlboro	20-85	-	13,426	-	19,495
178	Maynard	62-117	3,352	3,231	5,499	4,499
180	Medford	28	12,011	-	19,821	-
180A	Medford	1-28	60,524	57,003	99,942	90,022
180B	Medford	28-60	-	23,436	-	37,010
180C	Medford	38-60	-	17,387	-	27,032
202	Natick	135	10,682	-	15,531	-
202A	Natick	115	5,173	-	7,526	-
202B	Natick	27-135	-	16,626	-	27,131
202C	Natick	9	-	10,867	-	17,674
202D	Natick	9	-	10,779	-	17,586
202E	Natick	9	-	11,599	-	18,923
202F	Natick	135	-	7,744	-	18,088
202G	Natick	9	-	11,868	-	19,362
211	Newton	20A-128	-	-	-	-
211A	Newton	16	11,406	13,047	18,607	21,259
211B	Newton	115-A-128	-	-	-	-
211C	Newton	115-128	-	-	-	-
211D	Newton	30	12,156	12,405	15,605	20,239
211E	Newton	9	-	14,074	-	22,961
211F	Newton	9	-	15,275	-	24,919
211G	Newton	9	-	13,734	-	22,411
211H	Newton	-	-	-	-	-
211I	Newton	9	-	11,905	-	19,422
211J	Newton	30-128	15,077	13,083	24,958	21,346
211K	Newton	16-128	12,019	14,894	19,609	24,298
211L	Newton	9-128	12,636	25,133	20,615	40,930
221	No. Raeding	26-62	9,798	12,084	15,993	19,084
221A	No. Reading	28-62	9,613	11,801	15,940	18,758
236	Pepperell	113-119	1,566	1,761	3,187	3,109
236A	Pepperell	111-113	-	2,606	-	4,599
251	Reading	28	10,612	-	17,519	-
274	Sherborn	16-27	2,102	2,018	3,654	2,179
274A	Sherborn	16-27	-	2,130	-	2,299
279	Somerville	1-28-38	21,828	28,276	46,783	44,655
289	Stoneham	28-128	-	19,999	-	31,583
291	Stow	62-117	2,891	2,513	4,743	3,499
293	Sudbury	20-126	10,036	4,917	16,342	7,140
293A	Sudbury	20-126	9,635	5,237	15,809	7,605
293B	Sudbury	126	3,224	2,377	5,290	3,413
293C	Sudbury	117	-	-	-	-
300	Tewksbury	38	3,915	4,460	5,946	5,662
304	Townsend	13-119	-	3,289	-	5,805
306	Tyngsboro	3-113	9,106	8,217	15,632	12,295
306A	Tyngsboro	3-113	8,463	-	14,528	-
306B	Tyngsboro	113	-	2,540	-	3,799
313	Waltham	20-117	19,068	12,845	27,167	16,705
313A	Waltham	20-60	23,510	19,088	33,496	27,146
320	Wayland	20-27	11,409	8,309	18,522	11,572
320A	Wayland	27-30	-	6,123	-	8,220
322	Wellesley	9	5,168	16,348	7,515	26,670
322A	Wellesley	9-16	15,679	22,844	22,794	22,991
322B	Wellesley	135	8,864	12,439	12,887	20,295
322C	Wellesley	16-135	13,521	17,908	19,656	29,205
322D	Wellesley	16-135	13,008	16,286	18,911	25,432
322E	Wellesley	9	-	12,524	-	20,432
322F	Wellesley	9	-	11,835	-	18,486
322G	Wellesley	9	-	12,351	-	16,738
331	Westford	2-A-110	4,287	3,973	7,177	6,855
331A	Westford	110	3,810	-	6,381	-
331B	Westford	2A-110	-	3,563	-	6,147
331C	Westford	2A-110	-	3,685	-	6,358
335	Weston	20-20A	13,346	-	19,495	-
335A	Weston	30	5,903	5,344	9,632	8,611
335B	Weston	20	-	7,267	-	11,389
347	Wilmington	38-129	6,548	6,194	11,309	10,637
347A	Wilmington	38-62	7,638	7,310	13,193	11,984
352	Woburn	3-128	8,632	9,759	16,313	13,133
352A	Woburn	38-128	15,258	17,979	37,317	24,142



Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
DISTRICT 5						
7	Amesbury	110	7,699	9,885	10,222	13,863
7A	Amesbury	110	4,672	6,028	5,977	8,455
9	Andover	28-133	13,395	19,234	20,776	30,565
9A	Andover	28	-	-	-	-
9B	Andover	28-125	-	12,486	-	19,969
30	Beverly	127	-	-	-	-
30A	Beverly	1-A-97	9,395	7,557	16,336	11,921
30B	Beverly	1-A-62	12,152	13,645	21,130	21,514
30C	Beverly	1-A-22-127	22,391	29,015	38,933	45,748
30D	Beverly	127	9,574	9,158	16,647	14,441
72	Danvers	1-114	16,562	15,866	27,969	24,966
72A	Danvers	1-62	16,360	14,839	27,202	21,651
95	Essex	121	4,386	6,039	7,339	9,688
95A	Essex	Western and Northern Ave.	-	-	-	-
95B	Essex	22-121	6,602	5,462	9,993	8,737
108	Georgetown	97-133	3,728	5,508	6,518	8,822
108A	Georgetown	97-133	1,789	2,335	3,128	3,741
110	Gloucester	121-127	16,287	14,146	30,725	22,443
120	Groveland	97-125	6,091	5,669	8,661	8,463
123	Hamilton	1A	-	-	-	-
132	Haverhill	108-110	10,596	12,235	18,738	19,598
148	Ipswich	1A-121	6,199	6,084	11,032	9,569
148A	Ipswich	1	-	-	-	-
167	Lynn	1A	15,371	-	26,726	-
167A	Lynn	1A-129	-	-	-	-
167B	Lynn	107	11,057	9,922	19,225	15,643
167C	Lynn	1A-129	-	22,134	-	34,898
168	Lynnfield	1-128	21,735	21,682	36,347	33,484
168A	Lynnfield	128	-	-	-	-
172	Marblehead	129	9,525	12,685	16,562	19,999
185	Methuen	28-113	15,078	13,124	24,477	21,150
185A	Methuen	110	-	-	-	-
185B	Methuen	110	8,957	6,518	15,494	10,496
185C	Methuen	110	7,331	6,523	12,686	10,565
188	Middleton	62-114	8,376	5,621	11,244	9,739
207	Newbury	1	-	-	-	-
207A	Newbury	1A	-	-	-	-
208	Newburyport	1-1A	13,093	16,955	24,771	23,823
208B	Newburyport	125	5,638	5,047	8,023	7,535
215	N. Andover	114-133	4,319	5,358	7,472	8,584
215A	N. Andover	125-133	5,867	6,099	9,739	9,771
215B	N. Andover	114-125	7,773	8,248	13,339	13,336
215C	N. Andover	125-133	5,955	-	9,887	-
215D	N. Andover	125-133	6,029	7,161	12,995	11,471
215E	N. Andover	114-125	-	6,449	-	10,777
233	Peabody	1	-	-	-	-
233A	Peabody	128	10,863	11,360	19,154	17,911
233B	Peabody	114	7,991	10,753	14,090	16,954
253	Revere	1A	18,068	15,001	31,417	23,651
253A	Revere	1A	25,839	27,188	44,929	42,867
253B	Revere	1A-60	18,643	18,510	32,419	29,185
253C	Revere	1A-107	51,765	41,303	90,011	65,121
253D	Revere	60-107	21,916	21,219	38,107	33,450
253E	Revere	60-107	24,107	19,308	41,920	30,441
257	Rockport	127	5,473	5,302	10,203	8,413
259	Rowley	1-133	9,784	11,488	13,543	17,515
259A	Rowley	1	-	-	-	-
259B	Rowley	1A-133	3,710	3,659	5,136	5,732
259C	Rowley	1A	-	-	-	-
263	Salem	1A	11,254	10,925	19,570	17,224
263A	Salem	1A	-	-	-	-
263B	Salem	1A-129	13,109	12,010	23,285	18,937
263C	Salem	107-128	8,509	18,510	14,793	19,244
264	Salisbury	1-1A	15,706	15,597	22,342	23,281
264A	Salisbury	1A	5,821	2,823	5,691	4,214
267	Saugus	1-129	14,489	16,716	24,320	25,815
267A	Saugus	1	-	-	-	-
267B	Saugus	1	14,794	11,882	24,733	18,351
267C	Saugus	1	-	15,258	-	23,564
303	Topsfield	1-97	11,135	11,528	18,518	17,576
303A	Topsfield	1	-	-	-	-
303B	Topsfield	1	10,471	10,949	17,414	16,693
334	W. Newbury	125	3,002	3,832	4,272	4,284
E	Seabrook, N. H.	1-110	9,208	11,977	9,005	17,152
DISTRICT 6						
3	Acushnet	105	1,221	1,186	2,123	1,772
16	Attleboro	1-123	11,012	8,922	16,595	12,305
16A	Attleboro	1A-123	-	6,671	-	8,805
18	Avon	28	-	-	-	-

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
25	Bellingham	140	3,288	3,054	5,151	5,394
35	Boston	3	60,839	41,639	87,294	66,236
35A	Boston	1	—	9,749	—	13,361
40	Braintree	37-128	10,275	11,067	17,147	19,353
40A	Braintree	37-128	9,956	10,796	16,615	18,880
50	Canton	128-138	15,300	15,134	27,261	20,889
50A	Canton	138	13,901	—	23,745	—
73	Dartmouth	6	9,433	9,551	14,371	11,883
74	Dedham	11	13,946	17,050	20,226	23,367
74A	Dedham	1	12,886	—	18,689	—
74B	Dedham	128-137	9,109	—	13,063	—
74C	Dedham	11-135	16,064	14,953	22,884	20,492
74D	Dedham	109-128	—	10,417	—	17,131
74E	Dedham	11-128	—	18,466	—	26,939
74F	Dedham	1-1A	—	—	—	—
77	Dighton	138	5,341	—	7,235	—
90	Easton	123-138	10,644	9,366	17,748	13,300
90A	Easton	106-123	2,844	—	4,750	—
90B	Easton	106-123	1,604	2,282	2,679	3,960
90C	Easton	106-138	9,192	8,579	15,530	12,592
90D	Easton	138 z	10,695	—	17,422	—
90E	Easton	138	10,969	—	18,739	—
97	Fairhaven	6	10,465	8,499	18,726	12,698
97A	Fairhaven	6	10,291	—	17,907	—
98	Fall River	138	14,322	12,661	21,819	15,750
102	Foxboro	140	4,540	—	7,067	—
102A	Foxboro	1	—	6,981	—	11,275
104	Franklin	140	—	—	—	—
104A	Franklin	140	5,422	5,181	8,473	9,149
105	Freetown	18,140	4,004	4,281	7,161	7,542
137	Holbrook	37	7,987	—	13,639	—
171	Mansfield	106	1,939	—	3,332	—
171A	Mansfield	140	4,592	4,853	7,902	8,422
179	Medfield	27-109	4,943	3,408	6,732	3,679
181	Medway	109	3,052	2,430	4,429	2,623
181A	Medway	137	—	—	—	—
191	Millis	137	3,181	—	4,616	—
193	Milton	28-135	5,828	9,239	9,723	11,566
193A	Milton	28	3,735	—	6,460	—
193B	Milton	135-138	14,372	9,698	24,546	13,753
193C	Milton	28-138	29,169	—	49,831	—
203	Needham	128-135	5,817	—	8,439	—
203A	Needham	Hunnewell St. Highland Ave.	6,298	—	10,121	—
203B	Needham	128	—	7,703	—	12,668
216	N. Attleboro	1	—	—	—	—
216A	N. Attleboro	1-150	11,213	11,432	16,578	16,329
222	Norton	123-140	—	4,829	—	8,381
242	Plainville	1	—	—	—	—
248	Quincy	3	17,518	17,382	24,256	20,819
248A	Quincy	28-128	4,742	12,001	7,795	17,059
249	Randolph	28	7,084	—	11,821	—
250	Raynham	102	2,104	—	3,552	—
250A	Raynham	138	7,772	—	12,971	—
270	Seekonk	Mink St. School St.	2,354	2,616	3,886	3,718
270A	Seekonk	6	16,093	—	26,565	—
270B	Seekonk	101	9,788	8,328	14,899	1,184
270C	Seekonk	6	—	14,632	—	20,804
271	Sharon	15	5,493	—	8,285	—
278	Somerset	6-138	18,691	20,438	28,493	25,738
278A	Somerset	103	7,174	—	10,503	—
278B	Somerset	138	5,260	—	7,124	—
290	Stoughton	138	12,143	—	20,740	—
297	Swansea	103	2,648	3,212	5,218	3,551
297A	Swansea	6	—	—	—	—
297B	Swansea	6-136	11,474	12,039	15,898	17,116
298	Taunton	101	3,978	—	6,993	—
298A	Taunton	101	5,113	4,564	8,897	6,435
298B	Taunton	101-140	6,082	4,993	10,615	7,039
298C	Taunton	140	4,065	—	7,098	—
298D	Taunton	101-104	—	—	—	—
312	Walpole	1	11,887	—	17,248	—
312A	Walpole	11-27	12,798	7,389	23,020	10,344
312B	Walpole	1-27	—	—	—	—
336	Westport	6	10,704	—	16,308	—
336A	Westport	6	—	9,219	—	11,469
340	Westwood	11	17,255	19,078	25,037	27,482
340A	Westwood	137	—	—	—	—
341	Weymouth	3-18	13,926	12,270	19,281	14,736
341A	Weymouth	3A	23,361	23,098	32,346	36,741
341B	Weymouth	58-102	9,043	—	10,726	—



Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
341C	Weymouth	18-128	8,932	10,008	10,596	10,588
341D	Weymouth	18-58	-	5,336	-	5,646
355	Wrentham	11-140	12,779	5,688	19,315	9,085
355A	Wrentham	11-150	9,495	3,950	13,753	4,776
355B	Wrentham	142	-	-	-	-

## DISTRICT 7

1	Abington	102-123	7,404	8,083	8,781	10,979
1A	Abington	58-123	5,583	5,717	6,621	6,049
20	Barnstable	6-132	6,381	5,238	7,053	7,053
20A	Barnstable	6-49	7,369	6,355	12,092	11,215
20B	Barnstable	28-49	4,938	3,481	8,137	4,061
20C	Barnstable	28-130	3,194	2,856	5,262	3,197
20D	Barnstable	28	-	3,533	-	4,123
20E	Barnstable	28-132	-	4,667	-	5,596
20F	Barnstable	28	-	3,041	-	3,548
20G	Barnstable	28	-	3,875	-	4,521
36	Bourne	6-28	12,419	14,371	20,459	20,117
36A	Bourne	3-6	8,429	6,156	13,887	10,143
36B	Bourne	6	7,045	8,011	11,609	14,312
36C	Bourne	28	8,030	10,429	13,232	12,188
36D	Bourne	28	-	5,035	-	8,996
41	Brewster	6-24	4,022	3,204	4,529	3,768
42	Bridgewater	28	5,860	-	9,782	-
42A	Bridgewater	18-28	-	11,190	-	15,223
42B	Bridgewater	18-28	-	14,105	-	15,799
44	Brockton	123	-	-	-	-
44A	Brockton	28-37	10,306	12,476	17,599	15,619
44B	Brockton	28	8,973	9,951	13,981	17,609
44C	Brockton	28	-	5,365	-	9,494
44D	Brockton	27-28-123	-	23,418	-	41,440
44E	Brockton	27-28	-	18,981	-	33,590
52	Carver	101	-	1,702	-	2,979
52A	Carver	58-101	2,063	1,735	3,591	3,036
52B	Carver	58-101	2,113	2,106	3,633	3,929
55	Chatham	28	6,453	4,315	6,629	4,420
55A	Chatham	28	3,733	2,448	3,836	2,509
65	Cohasset	3A	-	12,782	-	20,457
76	Dennis	6-134	3,280	3,173	3,786	3,729
76A	Dennis	28-134	5,249	4,508	6,352	5,124
83	Duxbury	3A-14	4,189	3,419	6,289	4,781
85	E. Bridgewater	102-106	4,263	4,310	5,057	4,559
85A	E. Bridgewater	18-106	-	4,288	-	4,537
85B	E. Bridgewater	18	-	5,729	-	6,063
91	Edgartown	Edgartown Rd.	-	-	-	-
99	Falmouth	Vineyard Haven Rd.	-	2,068	-	1,854
99A	Falmouth	28	7,041	5,684	11,602	6,632
122	Halifax	Locust and W. Main St.	-	6,315	-	7,368
126	Hanover	58-106	3,043	2,884	5,229	7,018
126A	Hanover	3-123	6,565	8,031	10,069	10,502
126B	Hanover	3	8,509	7,546	13,049	9,868
127	Hanson	3	-	8,911	-	11,651
127A	Hanson	58	-	-	-	-
127B	Hanson	14-58	3,634	1,894	5,032	2,269
130	Harwich	27-58	3,083	3,093	4,269	4,878
130A	Harwich	24-28	6,341	3,855	5,489	3,950
135	Hingham	29	-	4,829	-	4,950
135A	Hingham	3A	17,061	18,882	24,168	30,147
135B	Hingham	3A	17,645	17,983	24,435	28,607
135C	Hingham	3-128	6,913	8,354	9,455	12,994
135D	Hingham	3A-128	-	7,004	-	11,212
135E	Hingham	Wash. Blvd.	-	-	-	-
135F	Hingham	Rockland St.	-	14,503	-	23,366
135G	Hingham	128	*	8,183	-	13,183
135H	Hingham	3A-128	-	7,339	-	11,946
142	Hull	-	-	-	-	-
149	Kingston	Nantasket Ave.	-	-	-	-
149A	Kingston	Bay St.	-	16,153	-	24,024
149B	Kingston	3-3A	6,109	5,921	10,475	10,059
149C	Kingston	3	-	-	-	-
150	Lakeville	27-106	3,153	3,209	5,484	5,429
150A	Lakeville	3-106	-	7,810	-	13,205
150B	Lakeville	18-105	1,525	1,649	2,652	2,901
173	Marion	18-105	-	2,147	-	3,779
175	Marshfield	18-101	-	3,786	-	6,663
175A	Marshfield	6-105	7,534	5,762	12,588	8,258
175B	Marshfield	3A	-	-	-	-
176	Mashpee	3A	-	5,556	-	7,965
		3A	7,635	6,779	11,451	9,719
		28	2,713	1,339	4,689	2,611

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
176A	Mashpee	130	—	865	—	1,009
177	Mattapoisett	6	—	6,440	—	9,378
186	Middleboro	28-101	9,182	—	15,807	—
186A	Middleboro	28	5,754	—	9,886	—
186B	Middleboro					
186C	Middleboro	28-105	—	10,410	—	16,555
186D	Middleboro	101-105	—	7,739	—	13,889
186E	Middleboro	28-101	—	9,436	—	17,122
223	Norwell	3-128	8,732	10,949	13,391	23,306
228	Orleans	6-28	4,221	3,697	4,586	4,148
228A	Orleans	6	—	5,002	—	5,881
228B	Orleans	28	—	2,622	—	2,686
235	Pembroke	3-14	4,748	4,985	8,768	9,069
235A	Pembroke	3-14	5,461	5,901	10,128	10,736
243	Plymouth	3				
243A	Plymouth	3	3,524	3,990	6,045	7,129
243B	Plymouth	3-101	—	12,707	—	15,986
244	Plympton	58-106	2,365	—	4,061	—
244A	Plympton	58	—	1,062	—	1,522
247	Provincetown	6	3,801	3,096	4,132	3,785
		Ran Point Rd.				
247A	Provincetown	Prov. Land Rd.	—	1,895	—	2,165
256	Rockland	123	5,483	6,271	7,591	7,512
256A	Rockland	123	4,698	4,680	6,506	5,605
266	Sandwich	130	6,789	1,981	11,186	3,535
266A	Sandwich	6-130	—	7,556	—	13,501
266B	Sandwich	6	—	7,604	—	13,587
269	Scituate	3A	7,154	5,739	10,736	9,702
269A	Scituate	3A-123	5,277	5,217	7,905	8,529
315	Wareham	6	7,663	6,609	13,166	9,875
315A	Wareham	6-28	11,334	11,585	19,474	20,793
315B	Wareham	28-58	6,813	8,521	11,704	12,819
315C	Wareham	6-28	10,723	11,999	18,102	16,202
315D	Wareham	6	—	5,451	—	8,148
315E	Wareham	28	—	7,373	—	14,417
322	Wellfleet	6	—	3,711	—	4,455
328	W. Bridgewater	28-106	8,123	10,296	13,558	10,703
		W. Tisbury Central				
339	W. Tisbury	W. Tisbury East	—	907	—	880
343	Whitman	18-27	7,363	7,794	8,722	8,247
343A	Whitman	27	—	4,003	—	4,237
356	Yarmouth	28	12,244	7,533	21,161	8,781
356A	Yarmouth	28	—	7,016	—	9,638

### ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-seven years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

The Department has organized and trained a group of men under competent supervision to have charge of this work, not only for the removal and trimming of trees, brush and undesirable growth, but also for the selection and planting of new growth suitable for the locations. The removal of trees and brush that may obstruct vision at curves, intersections or other points on the highway is done to insure that operating conditions shall be as safe as possible and unnecessary growth is cleared out in order to afford attractive vistas at many scenic locations. For the protection of the roadside trees the Department has maintained a corps of inspectors to supervise the trimming that may be necessary for the construction of light and power transmission lines. In connection with this work a Nursery is maintained at Sudbury where most of the trees and shrubs for use on the highways of Massachusetts are grown and made available for use by the Department. Strict supervision of the tree trimming by the Public Service Corporations is maintained, thus preserving the natural beauty of our roadsides as much as possible and



still allowing the Public Service Corporations to extend their services. During the year 1,224 trees were planted, making a total for the past twenty-nine years of 64,884 trees planted; also 402 vines, 120 evergreens and 376 pines were set out.

SIDEWALK CONSTRUCTION ON STATE HIGHWAYS

Under Chapter 439 of the Acts of 1931, the Department constructed one sidewalk during the year in the city of North Adams. It consisted of 1,933 lineal feet of granolithic construction and 265 lineal feet of gravel construction and the City has agreed to maintain the sidewalk.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act approved November 9, 1921, may be found in the annual reports of this Department for the years 1920-1927, inc.

The following Federal aid allotments have thus far been made to Massachusetts:—

For fiscal year ending June 30, 1917 . . . . .	\$73,850 94
For fiscal year ending June 30, 1918 . . . . .	147,701 90
For fiscal year ending June 30, 1919 . . . . .	958,145 15
For fiscal year ending June 30, 1920 . . . . .	1,400,078 27
For fiscal year ending June 30, 1921 . . . . .	1,472,788 83
For fiscal year ending June 30, 1922 . . . . .	1,096,176 04
For fiscal year ending June 30, 1923 . . . . .	730,784 03
For fiscal year ending June 30, 1924 . . . . .	950,448 62
For fiscal year ending June 30, 1925 . . . . .	1,089,806 22
For fiscal year ending June 30, 1926 . . . . .	1,099,891 00
For fiscal year ending June 30, 1927 . . . . .	1,089,055 00
For fiscal year ending June 30, 1928 . . . . .	1,089,100 00
For fiscal year ending June 30, 1929 . . . . .	1,088,808 00
For fiscal year ending June 30, 1930 . . . . .	1,090,077 00
For fiscal year ending June 30, 1931 . . . . .	1,821,569 00
For fiscal year ending June 30, 1932 . . . . .	1,813,916 00
For fiscal year ending June 30, 1933 . . . . .	1,511,244 00
Total . . . . .	\$18,523,440 00

In addition to the above the following allotments were made. In 1931 an allotment was made from "Federal Emergency Advance Funds" amounting to \$1,141,460. In 1932 an allotment of \$1,716,612. was made from the Federal Emergency Relief and Construction Act. In 1933 an allotment of \$6,597,100. was made from "National Recovery Funds".

The total amount received by Massachusetts from 1916 to November 30, 1933 is \$20,481,723.23. This amount includes all types of Federal Aid.

Projects to the number of 32 have been prepared in addition to those shown in the report of the Department of Public Works for 1932. The total mileage included in the various Federal aid road projects in this state, from the commencement of work of this character to November 30, 1933, inclusive, is 1016.015. The mileage in various counties is:—

Barnstable, 97.989 miles	Hampden, 56,731 miles
Berkshire, 121.022 miles	Hampshire, 54.300 miles
Bristol, 86.493 miles	Middlesex, 96.259 miles
Dukes, 3.117 miles	Norfolk, 86.845 miles
Essex, 77.705 miles	Plymouth, 108.084 miles
Franklin, 48.691 miles	Suffolk, 2.590 miles
	Worcester, 176.189 miles

## STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1933

No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
1	*Acushnet-Fairhaven	2.182	21,820 00	21,820 00
2	*Hanover	2.708	19,480 36	19,480.36
R-2	*Hanover	2.615	39,225 00	39,225 00
3	*Malden-Melrose Saugus	1.162	11,620 00	11,620 00
4	*Danvers	1.325	15,460 22	15,460 22
5	*Windsor-Dalton	3.240	64,800 00	64,800 00
6	*Sandwich	1.818	10,678 02	10,678 02
7	*Cummington	4.659	86,816 53	86,816 53
8	*Athol-Petersham	7.016	90,074 51	90,074 51
9	*Saugus	3.122	65,472 27	65,472 27
10	*Braintree	2.420	40,554 80	40,554 80
11	*Concord-Acton-Littleton	4.849	77,600 87	77,600 87
12	*Ipswich	2.173	21,851 50	21,851 50
E-12	*Ipswich	2.081	42,333 08	42,333 08
13	*Littleton-Groton	6.450	130,504 25	130,504 25
14	*Barnstable	3.331	22,687 65	22,687 65
15	*Norwell-Hingham	4.380	59,501 75	59,501 75
17	*Lynnfield-Peabody	1.794	35,880 00	35,880 00
18	*Lunenburg	2.797	55,940 00	55,940 00
19	*Taunton	2.116	42,320 00	42,320 00
20	*Tewksbury	2.909	35,211 82	35,211 82
21	*Pittsfield-Hancock	3.637	72,483 32	72,483 32
E-21A	*Hancock-Pittsfield	2.773	125,407 10	104,392 50
E-21B	*Hancock	1.098	72,901 15	43,898 00
22	*Greenfield-Bernardston	6.426	88,270 71	88,270 71
23	*Great Barrington	2.123	31,348 89	31,348 89
24	*Seekonk	2.756	19,527 75	19,527 75
R-24	*Seekonk	2.756	41,340 00	41,340 00
25	*Billerica	0.578	38,389 77	38,389 77
26	*Greenfield-Shelburne:			
	Section 1	5.134	102,680 00	102,680 00
	Section 2	4.401	88,020 00	88,020 00
27	*Hamilton-Wenham	1.766	20,207 27	20,207 27
28	*Lanesborough:			
	Section A	0.990	19,780 00	19,780 00
	Section B	2.690	53,800 00	53,800 00
29	*Ware	2.626	46,557 55	46,557 55
30	*Brimfield	4.206	84,120 00	84,120 00
31	*Danvers-Peabody	1.107	22,140 00	22,140 00
32	*Huntington	3.078	97,163 48	97,163 48
33	*Acton-Littleton:			
	Section A	2.182	43,640 00	43,640 00
	Section B	1.624	25,847 25	25,847 25
34	*Dudley	1.359	27,180 00	27,180 00
35	*Haverhill-Methuen	4.544	90,880 00	90,880 00
36	*Eastham-Wellfleet-Provincetown:			
	Section A	10.690	91,347 85	91,347 85
	Section B	6.548	75,935.60	75,935.60
	Section C	8.043	86,130 51	86,130 51
37	*Egremont	1.164	20,579 07	20,579 07
38	*Peabody-Danvers	2.827	56,540 00	56,540 00
39	*Williamstown-New Ashford-Lanesborough:			
	Section A	0.020	9,123 64	9,123 64
	Section B	3.323	65,980 00	65,980 00
	Section C	4.590	68,850 00	68,850 00
40	*East Brookfield	1.011	20,220 00	20,220 00
41	*Ashby	1.250	22,141 03	22,141 03
42	*Washington	2.291	45,820 00	45,820 00
43	*Leicester	0.638	12,760 00	12,760 00
44	*Goshen-Cummington-Windsor:			
	Section A	1.494	29,880 00	29,880 00
	Section B	3.323	65,980 00	65,980 00
	Section C	3.780	82,915 42	82,915 42
	Section D	3.022	54,874 60	54,874 60
45	*Palmer:			
	Sections A and C	1.795	35,900 00	35,900 00
46	*Upton-Hopedale:			
	Section A	1.672	33,440 00	33,440 00
47	*Barre-Oakham	1.737	87,200 75	37,200 75
50	*Lunenburg	1.763	35,260 00	35,260 00
	*Mendon-Uxbridge:			
	Section A	1.959	39,180 00	39,180 00
	Section B	2.504	50,080 00	50,080 00
52	*Oxford	3.208	64,160 00	64,160 00
53	*East Brookfield-Spencer-West Brookfield:			
	Section A	0.890	17,800 00	17,800 00
	Section B	1.682	33,640 00	33,640 00

\*Work completed.



No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
54	*Leicester:			
	Section A	0.829	16,580 00	16,580 00
	Section B	2.691	53,820 00	53,820 00
55	*Quincy	0.549	10,980 00	10,980 00
56	*Stoughton	2.141	42,820 00	42,820 00
NRH56	†Stoughton	2.188	117,194 77	
NRH57	†Winchester	1.031	25,346 42	
NRM57	†Woburn	1.995	28,240 19	
NRH57B	†Winchester	0.885	29,680 86	
57	*Winchester-Woburn	3.042	59,131 31	59,131 31
58	*Littleton	1.345	26,900 00	26,900 00
59	*Egremont	0.784	15,678 18	15,678 18
60	*Middlton-Danvers	1.907	38,224 70	38,224 70
61	*Winchendon-Templeton	5.393	106,117 44	106,117 44
62	*Danvers-Topsfield:			
	Section A	3.009	60,180 00	60,180 00
	Section B	3.513	76,959 91	76,959 91
63	*Essex-Ipswich	4.489	89,780 00	89,780 00
64	*Norwood	1.065	21,300 00	21,300 00
65	*North Adams	1.638	32,760 00	32,760 00
69	*Haverhill	2.657	53,049 24	53,049 24
70	*Palmer	2.550	51,000 00	51,000 00
71	*Wrentham	1.846	36,940 00	36,940 00
72	*Walpole	3.078	61,560 00	61,560 00
73	*Southwick	6.879	111,757 95	111,757 95
74	*Beckett	0.156	13,095 66	13,095 66
R74	*Becket	0.189	10,290 54	10,290 54
75	*Topsfield-Ipswich-Rowley-Newbury:			
	Section A	10.207	207,163 37	207,163 37
76	*Norfolk	1.447	28,940 00	28,940 00
77	*Merrimac	1.020	20,397 73	20,397 73
78	*Burlington	3.761	75,220 00	75,220 00
NRH78	†Burlington	3.760	45,171 06	
79	*Great Barrington	2.991	59,820 00	59,820 00
79B	*Great Barrington	0.028	8,522 99	8,522 99
80	*Lee:			
	Section A	0.909	18,180 00	18,180 00
	Section B	0.283	4,245 00	4,245 00
83	*Pembroke	2.121	31,815 00	31,815 00
84	*Sterling-West Boylston	3.491	51,974 04	51,974 04
85	*Dalton (Hinsdale Road):			
	Section A	1.033	20,660 00	20,660 00
	Section B	0.066	7,120 50	7,120 50
86	*Gay Head	3.117	40,783 51	40,783 51
87	*Dalton (Windsor Road):			
	Section A	1.056	21,120 00	21,120 00
	Section B	0.038	5,429 50	5,429 50
88	*Erving	4.537	67,485 00	67,485 00
89	*Easton:			
	Sections A and B	3.540	70,800 00	70,800 00
	Section C	3.840	62,400 00	62,400 00
NRH89A	†Easton	1.553	40,558 82	
NRH89C	†Easton	1.392	40,851 25	
90	*Brookfield-E. Brookfield	1.227	25,324 95	25,324 95
91	*Lowell	0.977	19,537 87	19,537 87
93	*Wilbraham	0.208	67,506 06	67,506 06
94	*Otis-Sandisfield	7.565	122,931 25	122,931 25
95	*Westfield	0.148	12,677 08	12,677 08
R95	*Westfield	0.148	36,944 88	36,944 88
96	*Rochester-Wareham	4.031	68,979 93	68,979 93
98	*Sheffield	3.052	61,133 85	61,133 85
99	*Gloucester	1.191	19,353 75	19,353 75
100	*Rutland	3.640	59,150 00	59,150 00
101A	*Hinsdale	0.297	4,455 00	4,455 00
101B	*Hinsdale	0.858	24,116 51	24,116 51
102A	*Plainville-Wrentham	3.254	48,810 00	48,810 00
103	*Adams	0.568	9,230 00	9,230 00
104	*Milton	3.534	70,680 00	70,680 00
105	*Rehoboth	1.438	28,760 00	28,760 00
106	*Bourne	0.522	35,002 00	35,002 00
R106	*Bourne-Falmouth	6.458	66,412 31	35,523 07
107	*Southampton	2.203	44,060 00	44,060 00
108	*Lakeville-Freetown	4.583	71,706 11	71,706 11
109	*West Brookfield	0.066	10,283 73	10,283 73
110	*Middleborough-Bridgewater	0.109	24,580 87	24,580 87
111	*Braintree	0.371	7,200 00	7,200 00
112	*No. Attleborough-Attleboro	3.278	65,560 00	65,560 00
113	*Swansea	0.692	11,245 00	11,245 00
113B	*Swansea-Somerset	3.503	64,439 74	64,439 74
114	*Lenox	2.408	39,130 00	39,130 00

\*Work completed.

†Work underway.

No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
115	*Plymouth	1.680	25,522 53	25,522 53
116	*Norwood-Walpole	2.453	40,878 91	40,878 91
117A	*Chelmsford	1.377	27,540 00	27,540 00
117B	*Chelmsford-Tyngsboro	4.625	89,713 81	89,713 81
118A	*Brookfield	0.620	12,400 00	12,400 00
118B	*Brookfield	0.251	3,765 00	3,765 00
119A	*Essex	0.406	8,120 00	8,120 00
120A	*Lakeville	4.789	71,835 00	71,835 00
120B	*Berkeley	0.864	12,960 00	12,960 00
120C	*Taunton-Berkeley	2.758	41,370 00	41,370 00
120D	*Taunton	0.862	12,930 00	12,930 00
121A	*Abington	0.947	17,887 34	17,887 34
121B	*Bridgewater	0.113	16,568 31	16,568 31
121C	*Weymouth	2.720	40,800 00	40,800 00
121D	*E. Bridgewater-Whitman	2.000	30,000 00	30,000 00
121E	*Abington	1.088	14,770 42	14,770 42
122A	*Barnstable	0.066	18,711 51	18,711 51
122B	*Barnstable-Mashpee	2.482	36,349 09	36,349 09
122C	*Falmouth-Mashpee	8.137	114,307 02	114,307 02
122D	*Barnstable	5.643	161,431 21	161,431 21
122E	*Barnstable	1.621	20,394 77	20,394 77
E122F	*Barnstable-Yarmouth	2.395	79,820 96	56,106 31
123A	*Southampton	2.461	47,155 67	47,155 67
124A	*Wayland	0.189	30,296 68	30,296 68
124B	*Marlborough	1.626	24,390 00	24,390 00
124C	*Weston	1.004	147,745 22	147,745 22
125A	*Wareham	3.086	68,316 11	68,316 11
125B	*Wareham	2.761	41,415 00	41,415 00
127A	*Holyoke	4.136	62,040 00	62,040 00
127B	*Easthampton-Northampton	1.762	74,258 69	74,258 69
128A	*Hinsdale	0.066	8,598 63	8,598 63
128B	*Hinsdale	0.952	14,280 00	14,280 00
129A	*Dighton-Somerset	3.465	51,975 00	51,975 00
129B	*Somerset	4.340	65,511 29	65,511 29
130A	*Auburn-Oxford	4.208	63,120 00	63,120 00
131A	*Wilbraham	0.530	7,950 00	7,950 00
131B	*Wilbraham	1.012	15,180 00	15,180 00
NRM131C	†Springfield (Force Acct.)	3.426	190,947 61	
132A	Duxbury-Kingston	2.123	31,845 00	31,845 00
133A	*North Andover	0.615	9,225 00	9,225 00
133B	*North Andover	0.771	11,565 00	11,565 00
133C	*North Andover	2.670	35,085 00	35,085 00
134A	*Barre	1.217	18,255 00	18,255 00
134B	*Barre	1.261	18,915 00	18,915 00
134C	*Barre	1.617	24,255 00	24,255 00
E134D	†Oakham-Rutland	3.493	60,604 79	49,320 52
135A	*Russell	0.557	13,919.60	13,919 60
135B	*Westfield-Russell	3.607	54,075 00	54,075 00
135C	*Russell	3.291	53,059 55	53,059 55
135D	*Russell-Huntington	3.670	55,050 00	55,050 00
136A	*Agawam	1.331	19,965 00	19,965 00
136B	*Agawam	1.515	22,725 00	22,725 00
136C	*Agawam	1.000	15,000 00	15,000 00
137A	*Sheffield	0.170	22,710 05	22,710 05
137C	*Sheffield	1.532	22,980 00	22,980 00
138A	*Chester	0.097	10,818 36	10,818 36
138B	*Chester	4.250	92,391 53	92,391 53
NRH138B	†Chester	0.307	52,686 97	
138C	*Becket	2.742	64,963 68	64,963 68
139A	*Brimfield	0.103	6,075 05	6,075 05
139B	*Brimfield	4.778	68,916 18	68,916 18
140A	*Lenox-Lee	3.519	52,785 00	52,785 00
140B	*Lee	0.057	22,620 13	22,620 13
141A	*Williamsburg	0.211	8,880 65	8,880 65
141B	*Goshen-Williamsburg	5.042	93,547 40	93,547 40
141C	*Northampton-Williamsburg	4.146	62,190 00	62,190 00
142A	*Fitchburg-Westminster	3.960	69,171 34	69,171 34
142B	*Gardner-Westminster	3.699	52,316 73	52,316 73
142C	*Gardner-Templeton	4.174	62,610 00	62,610 00
143	*Fairhaven-Mattapoisett	3.245	52,079 86	52,079 86
144A	*Canton-Stoughton	4.306	64,436 20	64,436 20
145A	*Ashland-Holliston	3.330	34,645 01	34,645 01
146A	*Paxton	1.783	26,745 00	26,745 00
146B	*Paxton-Worcester	4.930	73,950 00	73,950 00
147A	*Lenox-Pittsfield	2.349	35,235 00	35,235 00
148A	*Raynham	1.657	24,855 00	24,855 00
148B	*Raynham-Taunton	2.861	42,915 00	42,915 00
149A	*Middleborough	5.586	83,790 00	83,790 00
149B	*Middleborough	0.831	12,465 00	12,465 00

\*Work completed.

†Work underway.



No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
150A	*Littleton-Westford	1.985	29,775 00	29,775 00
150B	*Westford	2.660	39,900 00	39,900 00
151A and B	*Swansea-Somerset	0.464	89,138 06	89,138 06
152A	*Dartmouth	1.401	21,015 00	21,015 00
152B	*Dartmouth	2.858	42,870 00	42,870 00
152C	*Westport	4.634	69,510 00	69,510 00
153A	*Southampton-Easthampton	1.410	21,150 00	21,150 00
154A	*Sturbridge	2.503	37,545 00	37,545 00
155A	*West Springfield	0.549	8,235 00	8,235 00
155B	*Westfield-W. Springfield	2.348	103,968 51	103,968 51
156A	*Orange	1.058	15,870 00	15,870 00
156B	*Orange	2.607	39,105 00	39,105 00
156C	*Athol-Orange	1.544	24,606 61	24,606 61
157A	*Sandisfield-Tolland	0.644	34,803 50	34,803 50
R157A	*Sandisfield-Tolland	0.644	5,107 62	5,107 62
157B	*Sandisfield	0.473	32,037 28	32,037 28
157C	*Sandisfield-Tolland	3.038	45,570 00	45,570 00
157D	*Sandisfield	0.219	13,641 74	13,641 74
158A	*Dalton	0.430	22,087 67	22,087 67
159A	*Seekonk-Rehoboth-Swansea	1.899	49,876 52	49,876 52
159B	*Seekonk	2.251	33,765 00	33,765 00
159C	*Swansea	2.767	41,505 00	41,505 00
160A	*Lenox-Lee-Stockbridge	5.453	81,795 00	81,795 00
161A	*Brockton-W. Bridgewater	3.823	57,345 00	57,345 00
161B	*Avon-Brockton	2.201	33,015 00	33,015 00
162A	*Holliston	3.315	49,725 00	49,725 00
162B	*Milford	1.790	26,850 00	26,850 00
163A	*Amherst	0.052	3,787 09	3,787 09
163B	*Amherst	2.100	31,500 00	31,500 00
164A	*Westminster-Winchendon	0.750	42,931 27	42,931 27
164B	*Westminster-Ashburnham	3.607	54,105 00	54,105 00
164C	*Ashburnham	3.776	56,640 00	56,640 00
164D	*Winchendon	2.826	42,390 00	42,390 00
165A	*Winchendon	2.460	36,900 00	36,900 00
166	*Becket-Otis	6.043	99,077 00	99,077 00
168A	*Deerfield	3.043	45,645 00	45,645 00
169A	*Merrimac-Amesbury	3.397	50,955 00	50,955 00
E170A	Cohasset-Hingham	3.151	255,725 40	244,035 70
E170B	*Cohasset-Scituate	5.808	193,455 25	168,327 49
NRM170C	†Quincy-Weymouth (Temp. Bridge Only)	0.521	90,463 01	
171A	*Chelmsford	1.536	23,040 00	23,040 00
172A	*Leominster-Sterling	2.718	40,770 00	40,770 00
NRH172B	†Sterling-W. Boylston	4.337	192,781 43	
173A	*Cheshire	4.377	74,965 81	74,965 81
173B	*Lanesboro	1.742	26,130 00	26,130 00
NRH173C	†Lanesboro	0.347	17,983 98	
NRM173D	†Pittsfield	1.462	53,896 49	
174A	*Marshfield	4.533	67,995 00	67,995 00
NRH174B	†Scituate-Marshfield	1.168	150,757 25	
175A	*Sandwich	0.217	22,181 26	22,181 26
175B	*Orleans	1.904	23,601 55	23,601 55
175C	*Barnstable	0.927	13,905 00	13,905 00
175D	*Sandwich	2.364	35,460 00	35,460 00
175E	*Brewster-Orleans	7.858	106,314 45	106,314 45
176A	*Plymouth	5.032	70,543 35	70,543 35
176B	*Plymouth-Bourne	2.948	44,220 00	44,220 00
177A	*Chatham	3.964	48,588 18	48,588 18
177B	*Orleans	1.802	25,838 02	25,838 02
177C	*Dennis	3.219	38,734 30	38,734 30
E177D	*Yarmouth	4.818	110,106 38	95,801 01
178A	*Chelmsford	1.262	18,930 00	18,930 00
179A	*Falmouth	3.394	50,910 00	50,910 00
180A	*Franklin-Wrentham	3.125	46,875 00	46,875 00
180B	*Bellingham-Franklin	3.889	58,335 00	58,335 00
181A	*Florida-North Adams	2.818	42,270 00	42,270 00
181B	*Florida	2.736	41,040 00	41,040 00
181C	*No. Adams-Clarksburg	3.362	50,430 00	50,430 00
181D	*Florida-Savoy	3.702	55,530 00	55,530 00
182A	*Lunenburg	1.312	19,680 00	19,680 00
183A	*Amesbury-Salisbury	1.922	28,830 00	28,830 00
183B	*Amesbury	1.329	45,345 32	45,345 32
184A	*Charlton	2.848	42,720 00	42,720 00
NRH184A	†Charlton	2.848	67,893 41	
184B	*Charlton-Sturbridge	5.623	84,345 00	84,345 00
NRH184C	†Charlton-Oxford	2.609	48,936 52	
184D	*Oxford	0.906	21,111 59	21,111 59
185A	*Buckland	1.245	18,675 00	18,675 00
185B	*Charlemont	2.433	35,640 00	35,640 00
185C	*Charlemont	0.421	34,244 36	34,244 36

\*Work completed.

†Work underway.

No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
186	*Salisbury	2.405	36,075 00	36,075 00
187A	*Bellingham	1.225	18,375 00	18,375 00
187B	*Hopedale-Mendon-Bellingham	2.502	34,650 00	34,650 00
188A	*Townsend	3.813	57,195 00	57,195 00
188B	*Pepperell-Groton	3.368	50,520 00	50,520 00
188C	*Groton-Pepperell	1.627	52,993 57	52,993 57
188D	*Townsend	0.061	17,849 72	17,849 72
188E	*Townsend	0.009	2,108 03	2,108 03
NRH188F	†Ashby-Townsend	4.023	133,967 50	
189A	*Marion-Wareham	0.582	78,792 57	78,792 57
189B	*Mattapoisett	1.804	27,060 00	27,060 00
189C	*Marion	4.554	68,310 00	68,310 00
189D	*Wareham	1.344	20,160 00	20,160 00
NRH189E	†Mattapoisett	1.583	69,419 79	
NRH189F	†Wareham	1.556	57,224 03	
190A	*Becket	2.254	33,810 00	33,810 00
190B	*Hinsdale	0.307	29,570 45	29,570.45
191A	*Falmouth	5.896	81,094 43	81,094 43
191B	*Falmouth	1.752	21,280 00	26,280 00
192A	*Groveland	1.643	24,645 00	24,645 00
192B	*Newburyport	1.745	26,175 00	26,175 00
193A	*Hadley	1.985	25,821 78	25,821 78
193B	*Hadley	2.662	26,852 35	26,852 35
194A	*Athol-Phillipston-Templeton	4.738	71,070 00	71,070 00
NRH194B	†Templeton	3.002	72,439 89	
195A	*Mansfield-Norton	0.960	17,862 40	17,862 40
195B	*Mansfield-Norton	2.617	39,255 00	39,255 00
195C	*Foxborough-Wrentham	0.927	23,175 00	23,175 00
196A	*Millbury-Grafton	4.440	66,600 00	66,600 00
197	*Plymouth	6.543	96,288 19	96,288 19
198A	*Milford-Hopedale-Upton	4.418	66,270 00	66,270 00
199A	*Newbury	0.303	127,124 34	127,124 34
199B	*Newbury-Rowley	4.437	173,737 72	173,737 72
NRH199C	†Newbury	3.047	90,975 44	
200A	*Rehoboth	1.875	28,125 00	28,125 00
200B	*Taunton-Dighton-Rehoboth	5.690	86,868 07	86,868 07
201	*Wilbraham	1.530	22,950 00	22,950 00
202A	*Hanover-Pembroke	2.061	44,462 11	44,462 11
202B	*Duxbury-Kingston-Pembroke	6.164	92,460 00	92,460 00
203	*Natick-Wellesley	2.066	30,990 00	30,990 00
204	*Erving	3.214	48,210 00	48,210 00
205	*Dalton	0.913	22,152 43	22,152 43
206A	*Billerica	1.898	35,399 86	35,399 86
206B	*Billerica	0.978	14,670 00	14,670 00
206C	*Billerica-Chelmsford	2.874	40,148 95	40,148 95
207A	*Bridgewater-Middleboro	10.474	173,628 65	173,628 65
208A	*Weston	0.186	39,270 35	39,270 35
208B	*Weston	1.224	96,576 94	96,576 94
209A	*Milton-Quincy-Randolph	3.315	39,725 00	49,725 00
210A	*Becket-Lee	7.192	107,880 00	107,880 00
210B	*Becket	2.886	43,290 00	43,290 00
211A	*Northborough-Shrewsbury-Southborough	11.272	391,333 56	391,333 56
211B	*Framingham-Southboro	4.398	82,947 44	82,947 44
211C	*Framingham-Natick	4.061	100,200 00	94,244 62
E211D	*Wellesley	2.272	240,636 35	235,595 86
E211E	*Wellesley	1.108	376,899 31	370,192 46
212	*North Attleborough	2.123	45,332 76	45,332 76
213	*Attleborough	1.455	58,131 53	58,131 53
214A	*Tyngsborough	0.540	209,285 64	209,285 64
215A	*Palmer-Monson	0.606	79,452 36	79,452 36
216A	*Dedham	0.738	10,935 00	10,935 00
217	*Chester-Huntington	3.781	61,090 38	61,090 38
218	*Canton-Dedham-Westwood	3.947	202,012 06	129,297 55
219A	*Marlborough-Northboro	5.109	416,409 15	416,409 15
219B	*Northboro-Shrewsbury	2.578	56,157 49	56,157 49
220A	*Foxborough-Plainville-Wrentham	5.722	372,032 25	372,032 25
221	*Egremont	2.135	53,375 00	53,375 00
222	*Deerfield-Greenfield	0.337	127,099 76	127,099 76
223A	*Williamstown	1.789	38,956.97	38,956 97
224A	*Andover- No. Reading-Reading	4.431	214,676 48	214,676 48
225A	*Erving	1.425	113,775 43	113,775 43
225B	*Gill-Greenfield	5.147	160,827 89	160,827 89
225C	*Erving-Gill	0.017	194,050 94	194,050 94
226A	*Auburn-Worcester	4.809	143,134 13	143,134 13
226B	*Millbury-Worcester	2.125	182,684 81	182,684 81
226C	*Shrewsbury-Worcester	3.015	89,151 11	69,128 91
227	*Foxborough-Sharon-Wrentham	4.314	161,995 10	161,995 10
228A	*Uxbridge	4.171	126,823 58	126,823 58
229A	*Dedham-Westwood-Needham	3.448	100,412 55	79,752 13
229B	*Needham-Wellesley	3.653	103,047 67	86,043 72
230A	*Salisbury	2.184	38,084 39	38,084 39

\*Work completed.

†Work underway.



No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
231A	*Sharon-Walpole-Norwood	5.458	142,791 40	142,791 40
231B	*Dedham-Westwood-Norwood	3.566	168,318 57	130,156 22
232A	*Littleton	0.420	32,130 37	32,130 37
233A	*Lakeville-Middleboro	4.112	124,205 92	124,205 92
E235A	*Wellesley	1.360	125,962 33	125,962 33
NRM235B	†Brookline-Newton	1.089	210,478 94	
E236	*Lakeville-Middleborough-Taunton-Rayn- ham	6.344	219,779 15	123,134 70
E237A	*Oxford-Webster	3.375	127,719 68	85,089 53
238A	*Granby	3.154	37,134 33	37,134 33
E238B	*Belchertown	2.812	49,582 76	49,582 76
240A	*Worcester-W. Boylston	2.229	32,937 27	32,937 27
NRH240B	†West Boylston	0.594	15,630 28	
NRM241A	†E. Boston-Revere	2.294	713,586 36	
NRM242A	†Arlington-Belmont-Cambridge	1.557	597,218 35	
NRH243A	†Amesbury	0.795	44,977 46	
NRM244A	†Boston (Hyde Park)	0.296	39,246 79	
NRS245A	†Huntington	5.313	141,724 44	
NRS246	†Conway-Deerfield	6.193	225,494.28	32,408 40
Grand Totals		1016.015	\$24,547,747 91	\$20,481,723.23

## STATEMENT OF FEDERAL EMERGENCY ADVANCE FUNDS

No.	Town or City	Amount of Federal Aid Involved	Amount Rec'd
122D	*Barnstable	\$116,571 15	\$116,571 15
124C	*Weston	132,685 22	132,685 22
188C	*Groton-Pepperell	9,516 49	9,516 49
199B	*Newbury-Rowley	62,185 37	62,185 37
208B	*Weston	78,216 94	78,216 94
219A	*Marlborough-Northborough	329,743 37	399,743 37
220A	*Foxborough-Plainville-Wrentham	286,202 25	286,202 25
224A	*Andover-No. Reading-Reading	90,544 85	90,544 85
225A	*Erving	35,794 36	35,794 36
*Total		\$1,141,460 00	\$1,141,460 00

## STATEMENT OF FEDERAL EMERGENCY RELIEF AND CONSTRUCTION ACT

		Reg. Fed. Aid	Emerg. Const. Funds
E-12	*Ipswich	\$14,393 25	\$27,939 83
E-21A	*Hancock-Pittsfield	12,540 71	112,866 39
E-21B	*Hancock	10,935 17	61,965 98
E-122F	*Barnstable-Yarmouth	18,358 82	61,462 14
E-134D	†Oakham-Rutland	16,076 20	44,528 59
E-170A	*Cohasset-Hingham	30,687 05	225,038 35
E-170B	*Cohasset-Scituate	44,260 96	149,194 29
E-177D	*Yarmouth	28,968 14	81,138 24
E-211D	*Wellesley	37,516 72	203,119 63
E-211E	*Wellesley	64,803 13	312,096 18
E-235A	*Wellesley	34,009 83	91,952 50
E-236	*Lakeville-Middleborough-Taunton-Raynham	7,981 34	211,797 81
E-237A	*Oxford-Webster	28,419 71	99,299 97
E-238B	*Belchertown	15,370 66	34,212 10
Totals		\$364,321 69	\$1,716,612 00
Total apportionment of Emerg. Const. Funds			1,716,612 00
Total obligated			1,716,612 00
Balance			\$ 0 00

## STATEMENT OF NATIONAL RECOVERY FUNDS

No.	Town or City	Regular Fed. Aid Involved	National Re- covery Funds Involved
The Projects listed below are all "Underway".			
NRH56	Stoughton		\$117,194 77
NRH57	Winchester	\$12,600 00	12,746 42
NRM57	Woburn	14,100 00	14,140 19
NRH57B	Winchester	14,800 00	14,880 86
NRH78	Burlington	22,500 00	22,671 06
NRH89A	Easton		40,558 82
NRH89C	Easton		40,851 25
NRM131C	Springfield		190,947 61
NRH138B	Chester		52,686 97

\*Work completed.

†Work underway.

No.	Town or City	Regular	National Re-
		Fed. Aid Involved	covery Funds Involved
NRM170C	Quincy-Weymouth (Temp. Bridge)		90,463 01
NRH172B	Sterling-W. Boylston	96,200 00	96,581 43
NRH173C	Lanesboro	8,000 00	9,983 98
NRM173D	Pittsfield	23,000 00	30,896 49
NRH174B	Scituate-Marshfield		150,757 25
NRH184A	Charlton	33,900 00	34,083 41
NRH184C	Charlton-Oxford	20,523 83	28,412 69
NRH188F	Ashby-Townsend	16,435 81	117,531 69
NRH189E	Mattapoisett	30,000 00	39,419 79
NRH189F	Wareham	25,000 00	82,224 03
NRH194B	Templeton	36,200 00	36,239 89
NRH199C	Newbury	44,000 00	46,975 44
NRM235B	Brookline-Newton		210,478 94
NRH240B	West Boylston	7,500 00	8,130 28
NRM241A	East Boston-Revere		713,586 36
NRM242A	Arlington-Belmont-Cambridge		597,218 35
NRH243A	Amesbury	17,984 24	26,993 22
NRM244A	Boston (Hyde Park)		39,246 79
NRS245A	Huntington		141,724 44
NRS246	Conway-Deerfield		225,494 28
Totals		\$422,743 88	\$3,183,119 71

Note:—Amount of National Recovery Funds received prior to Dec. 1, 1933=\$32,408.40 on project NRS 246, Conway-Deerfield.

	N R H.	N R M.	N R S.
Apportionment	\$1,932,950 00	\$4,136,382 00	\$527,768 00
Obligated	928,923.28	1,886,977 71	367,218 72
(As of Nov. 30, 1933) Balance	\$1,004,026.72	\$2,249,404 29	\$160,549 28

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR  
*Cities and Towns, Locality and Character of Structure.*

- Alford — Green River Road over Green River; two 33-foot spans, reinforced concrete beam and slab.
- Ashland — Homer Avenue over Cold Spring Brook; one 17-foot span, reinforced concrete slab.
- Belchertown — Enfield Road over Jabish Brook; one 20-foot span, reinforced concrete slab.
- Belchertown — Parker Road over Jabish Brook; one 18-foot span, reinforced concrete slab.
- Charleton — Sturbridge Road over Cary Brook; one 15-foot span, reinforced concrete slab.
- Dartmouth — Potomska Road over Little River; two 18-foot spans, reinforced concrete beam and slab; one 63-foot span, steel girder.
- Dedham — Providence Turnpike over Circumferential Highway; one 83-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Providence Turnpike over High Street; one 73-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Providence Turnpike over Williams Street; one 64-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Reinforced concrete mat and culvert at sites of High Street and Williams Street bridges.
- Dedham — Retaining walls at High Street and Williams Street bridges.
- Dighton — Taunton Road at Taunton line over Three Mile River; one 42-foot span, reinforced concrete beam and slab.
- Edgartown — At Oak Bluffs line over Sengekontacket Pond; sixteen 15-foot spans, timber trestle.
- Framingham — Concord Street over Sudbury River; two 28-foot spans, reinforced concrete beam and slab.
- Granby — Belchertown Road over Forge Pond Brook; one 15-foot span, reinforced concrete slab.



- Granville — Main Road at Tolland line over Hubbard River; one 26-foot span, reinforced concrete beam and slab.
- Hingham — Cohasset Road over tracks of New York, New Haven and Hartford Railroad, one 57-foot span, steel stringers with reinforced concrete floor.
- Hingham — Cohasset Road over Weir River; one 17-foot span, reinforced concrete slab.
- Hinsdale — Fassell Road over Branch of Housatonic River; one 20-foot span, reinforced concrete slab.
- Lee — West Park Street over Canal; one 23-foot span, reinforced concrete beam and slab.
- Lee — West Park Street over Housatonic River; two 60-foot spans, steel stringers with reinforced concrete floor.
- Middleborough — Cattle pass over Thompson Street; two 24-foot spans and one 40-foot span, reinforced concrete girder.
- Needham — Circumferential Highway under tracks of New York, New Haven and Hartford Railroad; one 75-foot span, steel girder.
- Needham — Highland Avenue over Circumferential Highway; one 63-foot span, concrete rigid frame.
- Newbury — Middle Street over Parker River; one 42-foot span, steel stringer.
- Newton — Retaining walls at Centre Street on Worcester Turnpike.
- Newton — Retaining walls at Quinobequin Road and Chestnut Street, on Worcester Turnpike.
- Newton — Retaining walls at Parker Street on Worcester Turnpike.
- Newton — Worcester Turnpike over Centre Street; one 93-foot span, three-hinged steel arch.
- Newton — Worcester Turnpike over Chestnut Street; one 50-foot span, reinforced concrete rigid frame.
- Newton — Worcester Turnpike over Quinobequin Road; one 51-foot span, reinforced concrete rigid frame.
- Newton — Worcester Turnpike over Sudbury Aqueduct; one 9-foot span, reinforced concrete saddle.
- Newton — Worcester Turnpike under Parker Street; two 30-foot spans, steel stringers with reinforced concrete floor.
- Pittsfield — State Highway over Phelps Brook; one 31-foot span, reinforced concrete beam and slab.
- Revere — Beach Street over tracks of Boston and Maine Railroad; two 35-foot spans, reinforced concrete beam and slab, one 62-foot span, steel girders.
- Savoy — Adams Road over Westfield River; one 24-foot span, reinforced concrete beam and slab.
- Savoy — Adams Road over Sturtevant Brook; one 24-foot span, reinforced concrete beam and slab.
- Wellesley — Worcester Turnpike over tracks of Boston and Albany Railroad, one 83-foot span, steel plate girder.
- Wellesley — Worcester Turnpike over Aqueduct at Station 11+91; one 6-foot span, reinforced concrete saddle.
- Wellesley — Worcester Turnpike over Weston Road; one 58-foot span, reinforced concrete rigid frame.
- Wellesley — Worcester Turnpike under Washington Street; two 75-foot spans, steel deck plate girders with reinforced concrete floor.
- Wellesley — Worcester Turnpike under Cedar Street; two 40-foot spans, steel stringers with reinforced concrete floor.
- Wellesley — Worcester Turnpike over Cliff Road; one 50-foot span, reinforced concrete rigid frame.
- Wellesley — Cliff Road over tracks of Boston & Albany Railroad; one 64-foot span, steel plate girder.

- Wellesley — Worcester Turnpike over Adequct at Station 11+91; one 6-foot span, reinforced concrete saddle.
- Wellesley — Worcester Turnpike over Rosemary Brook; one 12-foot span, reinforced concrete slab.
- Wellesley — Retaining walls at Washington Street bridge on Worcester Turnpike.
- Westfield — Main Street over Powder Mill Brook; twenty-two 18-foot spans and one 32-foot span, reinforced concrete pile trestle.
- Westfield — Main Street over Westfield River; two 50-foot spans, steel stringer and one 273-foot span through steel truss.
- Westwood — Providence Turnpike under tracks of New York, New Haven and Hartford Railroad; one 99-foot span, steel plate girder.
- Worthington — Huntington Road over Ward's Stream; one 8-foot span, reinforced concrete box culvert.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES  
MADE OR CONTRACTED FOR

- Billerica — At Wilmington line, Aqueduct bridge over Shawsheen River; extension to existing reinforced concrete arch, 21-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 94; extension to reinforced concrete beam and slab, 17-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 129; extension to reinforced concrete beam and slab, 20-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 17; alteration of bridge fence.
- Dalton — Main Street over Housatonic River; steel bridge repainted.
- Egremont — Under Mountain Road over Guilder Brook; extension to reinforced concrete beam and slab, 24-foot span.
- Greenfield — At Montague line, Montague City Bridge over Connecticut River; repairs to trusses and roof.
- Hingham — Bridge at Otis and Summer Streets; repairs to existing concrete beams.
- Lee — Center Street bridge over Housatonic River; repainting steel.
- Needham — Greendale Avenue over tracks of New York, New Haven and Hartford Railroad; one 32-foot span, reinforced concrete arch extension.
- Newton — Worcester Turnpike over Charles River; extensions to two existing stone faced concrete arches; one 14-foot span and one 50-foot span.
- Newton — Worcester Turnpike over East Branch of Charles River; extension to stone faced concrete arch, 20-foot span.
- North Adams — Greylock Bridge over Hoosic River; repainting steel.
- Oakham — Athol Road over Brook; extension to reinforced concrete arch, 10-foot span.
- Oakham — Athol Road over Mill Pond; extension to reinforced concrete beam and slab, 24-foot span.
- Oxford — Charleston Road over French River; extension to reinforced concrete arch, 16-foot span.
- Pittsfield — Lebanon Avenue over West Branch Housatonic River; extension to reinforced concrete beam and slab, 30-foot span.
- Pittsfield — Hancock Road over Shaker Brook; extension to reinforced concrete beam and slab, 18-foot span.
- Pittsfield — Woodleigh Avenue over Brook; extension to reinforced concrete culvert, 8-foot span.
- Sandisfield — At Tolland line, State Line bridge over Farmington River; repainting steel.
- Sandisfield — Hanging Mountain bridge over Farmington River; repainting steel.
- Sheffield — Blodgett's bridge over Housatonic River; repainting steel.



- Shrewsbury — Boston Post Road over Brook; extension to reinforced concrete slab, 13-foot span.
- Southwick — South Longyard Road over Great Brook; extension to reinforced concrete slab, 11-foot span.
- Southwick — South Longyard Road over canal; extension to reinforced concrete slab, 8-foot span.
- Tewksbury — Main Street over Shawsheen River; extension to 2-span reinforced concrete beam and slab, 20-foot spans.
- Tyngsborough Bridge over Merrimack River and tracks of Boston & Maine Railroad; reinforced concrete hood over railroad tracks.
- Wareham — State highway over Weweantic River; extension to reinforced concrete beam and slab, 25-foot span.
- Wareham — State highway over Parker Mills Pond; extension to reinforced concrete beam and slab, 30-foot span.
- Worthington — Huntington Road over Little River; extension to reinforced concrete beam and slab, 28-foot span.
- Worthington — Huntington Road over Ward's Stream; extension to reinforced concrete beam and slab, 20-foot span.

### CONTEMPLATED BRIDGES AND STRUCTURES

#### *Plans, Studies or Estimates Made*

#### *Cities and Towns, Locality and Character of Structure.*

- Arlington — Grade separation on Cambridge-Concord Highway at Pleasant Street.
- Attleboro — Washington Street over tracks of New York, New Haven and Hartford Railroad.
- Ayer — West Main Street over tracks of Boston and Maine Railroad.
- Belchertown — Cranby Road over tracks of Boston and Maine Railroad and tracks of Central Vermont Railroad. Bondsville Road over Reservoir Outlet, over canal, and over tracks of Boston and Maine Railroad.
- Boston — Viaduct over tracks of Midland Division of New York, New Haven and Hartford Railroad, Neponset River, and River Street connecting Neponset River Parkway with the proposed extension of Canterbury Street; grade separations on proposed Clarendon Hills Parkway at Hyde Park Avenue, over tracks of the New York, New Haven and Hartford Railroad, and Poplar Street. East Boston Tunnel Road over road and proposed tracks of Boston and Maine Railroad near Orient Heights. Grade separation at Huntington Avenue and the Riverway.
- Relocation of highway at Pauls Bridge over Neponset River.
- Brookline — Grade separation on Worcester Turnpike at Brookline Village and at Cypress Street.
- Cambridge — Traffic Circle at junction of Alewife Brook Parkway and Cambridge-Concord highway.
- Clarksburg — Extension to arch over Hoosic River.
- Cohasset — Proposed bridge over tracks of New York, New Haven and Hartford Railroad, near Black Rock Station.
- Colrain — Center bridge over East Branch of North River.
- Concord — Bridges on Cambridge-Concord highway over Concord River and over tracks of Boston and Maine Railroad.
- Conway — Bridges on Deerfield Road over Mill River.
- Dartmouth — At Westport Factory over Noquochoke Lake.
- Deerfield — Extensions to bridges on Conway Road over Mill River.
- Great Barrington — North Plain Road over Williams River.
- Hinsdale — Middlefield Road over Housatonic River.
- Lakeville — Taunton Road at Middleborough line over Poquay Trout Brook.

- Lawrence — Salem Turnpike over Shawsheen River.  
 Lexington — Grade separation of proposed Cambridge-Concord highway and Waltham Street.  
 Lincoln — South Great Road over tracks of Boston and Maine Railroad.  
 Littleton — State highway over tracks of Boston and Maine Railroad.  
 Lynn — Point of Pines bridge over Saugus River at the Revere line.  
 Newbury — Newburyport Turnpike over tracks of Boston and Maine Railroad.  
 Newton — Worcester Turnpike over Hammond Pond Parkway.  
 Oxford — Webster Road under tracks of New York, New Haven and Hartford Railroad; Webster Road over Taft Brook.  
 Pittsfield — Lebanon Avenue over tracks of Boston and Albany Railroad and over Shaker Brook.  
 Quincy — Washington Street over Weymouth Fore River, at Weymouth line.  
 Raynham — Taunton Turnpike over Taunton River, over Haskins Brook and over Damlot Brook.  
 Revere — East Boston Tunnel Road over oil pipe corridor and over Revere Beach Parkway and Winthrop Avenue, over highway and tracks of Boston and Maine Railroad. Traffic Road at Point of Pines over tracks of Boston, Revere Beach and Lynn Railroad and private property. Highway under Parkway near Eliot Circle.  
 Templeton — Phillipston Road over Crow Hill Brook.  
 Waltham — Main Street over tracks of Boston and Maine Railroad at Beaver Brook Station.  
 Weymouth — Main Street over tracks of New York, New Haven and Hartford Railroad.  
 Winchester — Grade separation of highway and tracks of Boston and Maine Railroad.  
 Yarmouth — West Yarmouth Road over Parkers River.

*Examinations, Reports, Estimates, etc., at Request of Counties, Cities and Towns*

- Amesbury — Chain Bridge over Merrimack River; examination and report of condition.  
 Amesbury — Essex-Merrimac Bridge over Merrimack River; examination and report of condition.  
 Amherst — Meadow Street Bridge, North Amherst; examination and estimate for a new bridge.  
 Ashland — Howe Street over Indian Brook; examination and estimate for a new bridge.  
 Bedford — Middlesex Turnpike over Shawsheen River; examination and advice on strength of bridge under construction.  
 Chester — Main Street over West Branch of Westfield River; examination and estimate of repairs to bridge.  
 Conway — Bardwell's Bridge over Deerfield River; examination and estimate for repairs.  
 Framingham — Herbert Street over Beaver Dam Brook; examination and estimate for reconstruction of bridge.  
 Gill — At Montague line over Connecticut River; examinations and advice on repairs to bridge.  
 Greenfield — Site of Smead Bridge; estimate for new bridge.  
 Millville — Central Street over Blackstone River; examination and estimate for new bridge.

*Examinations, Reports, Estimates, etc., by direction of the Department. Cities and Towns, Locality and Subject.*

- Boston — Commonwealth Pier heating plant; advice on boiler installation.  
 Boston — D Street garage of Department; investigation of floor design.



- Boston — New building for Public Works Department; investigation of design of basement floor.
- Colrain — Center Bridge over East Branch of North River; estimate for cost of reconstruction.
- Dighton — At the Taunton line over Three Mile River; estimate for widening bridge.
- Marshfield — State highway over South River; estimate for widening bridge.
- Newburyport — At the Salisbury line over Merrimack River; estimate for repairs to bridge.

*Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313 of Acts of 1923.*

- Athol — Reconstruction of bridge on Chestnut Street over Mill Brook; reinforced concrete arch, 13-foot span.
- Concord — Repairs and additions to the three-arch bridge on Elm Street over Concord River.
- Fall River — Extension of Third Street Bridge over Quequechan River.
- Haverhill — Reconstruction of Country Bridge over East Meadow Brook; one 17-foot span.
- Haverhill — Reconstruction of Brandy Brow Bridge over East Meadow Brook; one 12-foot span.
- Haverhill — Reconstruction of North Avenue Bridge over Snow's Brook; one 13-foot span.
- Hingham — At the Weymouth line; alterations to Back River Bridge.
- Pittsfield — Bridge on West Housatonic Street over Southwest Branch of Housatonic River; one 28-foot span, steel stringer with concrete floor.
- Winchendon — George M. Whitney Memorial Bridge over Millers River; two 24-foot spans and one 26-foot span, reinforced concrete arches.
- Worcester — Southbridge Street bridge over Blackstone River; two spans, steel stringer bridge.

*Examinations, Studies, Estimates and Reports by direction of Acts and Resolves of the Legislature.*

- Chapter 450, Acts of 1931, Section 8. This section of the Act directs the department of public works "to make surveys and prepare plans and estimates of cost of a grade separation by means of an overpass at the intersection of the Riverway and Huntington Avenue in the City of Boston". Preliminary plans and estimates have been made.
- Chapter 241, Acts of 1932. "An Act providing for the construction of a new bridge over the Saugus river between the Point of Pines in the city of Revere and the city of Lynn". Plans and specifications have been completed.
- Chapter 258, Acts of 1932, Section 1. This section directs the department to lay out and construct a state highway "including any necessary alterations to the bridge at Beach Street, crossing the tracks of said railroad", referring to the Boston and Maine Railroad. The contract for the work has been awarded and construction work has started.
- Chapter 302, Acts of 1932. "An Act authorizing the laying out of a State highway extending from Alewife Brook Parkway in the city of Cambridge westerly through said city and the towns of Arlington, Belmont, Lexington, Lincoln and Concord." Preliminary studies for bridges in Concord have been made.
- Chapter 25, Resolves of 1932. "Resolve providing for an investigation and study by the department of public works, of traffic conditions on a portion of the Fall River-New Bedford highway." The report has been filed with the clerk of the house of representatives.

Chapter 27, Resolves of 1932. "Resolve providing for an investigation by the department of public works relative to the advisability of further dredging Lynn Harbor and Saugus River and of widening draws in bridges over said river." The report has been filed with the clerk of the house of representatives.

Chapter 32, Resolves of 1932. "Resolves providing for the making and preparation by the department of public works of surveys, estimates, plans and specifications for the construction of a new high level bridge over the Weymouth Fore River between the city of Quincy and the town of Weymouth." The report has been filed with the clerk of the senate.

#### BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1933, was 153. In 1932 the number of such openings was 220; in 1931 the number was 415; and in 1930 the number was 335.

The total expenditure during the year was \$11,350.43.

The total expenditure from 1912 to Nov. 30, 1933, inclusive, was \$189,812.11.

#### BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1933, was 1,602. In 1932 the number of such openings was 1,662; in 1931 the number was 1,700; and in 1930 the number was 1,812.

The total expenditure during the year was \$16,703.60.

The total expenditure from 1912 to Nov. 30, 1933, inclusive, was \$371,618.48.

#### BRIDGE OVER THE ACUSHNET RIVER BETWEEN CITY OF NEW BEDFORD AND THE TOWN OF FAIRHAVEN

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1932, was 1,069. In 1931 the number of such openings was 2,564; in 1932 the number was 2,384; and in 1933 the number was 1,867.

The total expenditure during the year was \$14,486.01.

The total expenditure while in charge of the Department has been \$65,491.00.



## CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, as revised and amended.)

During the year the Department has contracted for work to be done in the towns/cities named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns/cities and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
<i>Barnstable County</i>					
Bourne	\$30,000 00	—	—	Bituminous macadam	3,503
Orleans	5,000 00	2,500 00	2,500 00	Bituminous concrete	4,000
Orleans	6,000 00	3,000 00	3,000 00	Bituminous concrete	5,000
<i>Berkshire County</i>					
Adams	8,000 00	4,000 00	4,000 00	Stone and tar mixed in place	2,925
Alford	1,000 00	500 00	500 00	Gravel	800
Becket	3,000 00	1,500 00	1,500 00	Gravel	2,050
Becket	1,000 00	500 00	500 00	Gravel	575
Becket	1,000 00	500 00	500 00	Gravel	1,000
Cheshire	3,200 00	1,600 00	1,600 00	Gravel	2,150
Cheshire	500 00	—	—	Oiling	8,539
Clarksburg	2,000 00	1,000 00	1,000 00	Gravel	2,750
Egremont	3,200 00	1,600 00	1,600 00	{Stone retread }Gravel	1,765 2,500
Florida	4,000 00	4,000 00	—	Gravel	2,320
Great Barrington	15,000 00	10,000 00	5,000 00	Bituminous macadam	5,305
Hancock	32,500 00	1,250 00	5,000 00	Bituminous macadam	9,200
Hancock	1,000 00	350 00	—	Oiling	28,000
Hancock	1,000 00	500 00	—	Gravel	550
Hinsdale	3,000 00	500 00	1,000 00	Bridge	—
Lanesborough	4,000 00	2,000 00	2,000 00	Stone retread	2,100
Lee	2,000 00	1,000 00	1,000 00	Gravel	1,573
Lee	2,225 00	2,225 00	2,225 00	Bituminous macadam	901
Lenox	3,000 00	1,500 00	1,500 00	Gravel	1,700
Monterey	500 00	250 00	250 00	Gravel	375
Mount Washington	1,500 00	500 00	1,000 00	Gravel	1,350
New Ashford	400 00	200 00	200 00	Gravel	450
New Marlborough	1,000 00	500 00	500 00	Stone retread	2,500
New Marlborough	3,000 00	1,500 00	1,500 00	Stone retread	7,500
New Marlborough	2,000 00	1,000 00	1,000 00	Stone retread	5,000
Otis	2,000 00	500 00	1,000 00	Gravel	1,200
Otis	4,000 00	500 00	2,000 00	Gravel	1,800
Pittsfield	24,000 00	12,000 00	12,000 00	Bituminous macadam	9,899
Richmond	2,500 00	1,000 00	1,500 00	Gravel	2,150
Sandisfield	4,000 00	2,000 00	2,000 00	Gravel and stone retread	6,650
Sheffield	3,000 00	1,500 00	1,500 00	Gravel and stone retread	4,955
Sheffield	1,000 00	500 00	500 00	Gravel	1,000
Stockbridge	7,500 00	5,000 00	2,500 00	Bituminous macadam	2,000
Tyringham	3,000 00	2,000 00	1,000 00	Stone retread	1,850
Washington	4,000 00	2,000 00	2,000 00	Gravel	2,200
West Stockbridge	6,000 00	3,000 00	3,000 00	Gravel	4,600
Williamstown	3,000 00	3,000 00	—	Gravel	1,564
Windsor	1,000 00	500 00	500 00	Gravel	750
Windsor	1,000 00	500 00	500 00	Gravel	650
<i>Bristol County</i>					
Berkley	2,000 00	1,000 00	1,000 00	Gravel	1,000
Berkley	1,000 00	1,000 00	—	Oiling	47,300
Easton	6,000 00	6,000 00	—	Gravel	2,080
Freetown	1,000 00	1,000 00	—	Oiling	68,300
Rehoboth	5,150 00	2,575 00	2,575 00	Bituminous macadam	2,303
Rehoboth	2,850 00	1,425 00	1,425 00	Gravel	2,600
Westport	2,500 00	2,500 00	—	Repair bridge	—
<i>Dukes County</i>					
Chilmark	250 00	125 00	125 00	Bituminous concrete	115
Oak Bluffs	17,584 14	10,000 00	14,915 86	Bituminous concrete	11,000
Tisbury	21,800 00	10,900 00	—	Bituminous concrete	3,825
<i>Essex County</i>					
Amesbury	500 00	500 00	—	Oiling	17,350
Amesbury	6,000 00	6,000 00	—	Bituminous macadam	2,238
Boxford	1,000 00	1,000 00	—	Oiling	31,000
Boxford	14,400 00	1,600 00	—	Gravel and tar mixed in place	5,800
Georgetown	1,500 00	1,500 00	—	Gravel	1,500
Gloucester	5,000 00	5,000 00	—	Bituminous macadam	2,800
Haverhill	30,000 00	30,000 00	—	Bituminous macadam	20,918
*Marblehead	12,000 00	12,000 00	—	Bituminous macadam	4,622
Merrimac	2,000 00	2,000 00	—	Gravel	3,700
Merrimac	1,000 00	—	—	Gravel	800
Merrimac	500 00	500 00	—	Gravel	2,150
Methuen	6,500 00	6,500 00	—	Bituminous macadam	5,600
Middleton	500 00	500 00	—	Grading and drainage	10,700
Middleton	500 00	500 00	—	Grading and drainage	6,570
Nahant	1,500 00	1,500 00	—	Oiling	12,144
Rowley	500 00	500 00	—	Oiling	11,000

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
Salisbury . . . . .	16,000 00	—	—	Bituminous macadam . . . . .	1,065
Salisbury . . . . .	3,500 00	3,500 00	—	Broken stone and tar mixed in place . . . . .	2,700
*Ipswich . . . . .	1,500 00	1,500 00	—	Oiling . . . . .	40,950
West Newbury . . . . .	900 00	900 00	—	Oiling . . . . .	8,448
<i>Franklin County</i>					
Ashfield . . . . .	1,000 00	1,000 00	—	Gravel . . . . .	900
Ashfield . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,300
Ashfield . . . . .	4,000 00	—	—	Repair and oiling . . . . .	6,000
Ashfield . . . . .	5,300 00	240 00	—	Oiling . . . . .	31,680
Buckland . . . . .	6,000 00	5,000 00	1,000 00	Gravel . . . . .	6,000
Charlemont . . . . .	2,000 00	1,000 00	1,000 00	Stone retread . . . . .	3,500
Colrain . . . . .	16,000 00	6,500 00	—	Gravel and tar . . . . .	1,250
Colrain . . . . .	2,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	1,000
Conway . . . . .	3,000 00	2,000 00	1,000 00	Gravel . . . . .	2,400
Deerfield . . . . .	3,000 00	2,000 00	1,000 00	Bituminous macadam . . . . .	1,400
Erving . . . . .	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place . . . . .	2,300
Gill . . . . .	2,965 00	670 00	—	Oiling . . . . .	35,376
Gill . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,350
Greenfield . . . . .	2,600 00	1,600 00	1,000 00	Stone retread . . . . .	2,157
Greenfield . . . . .	1,250 00	2,500 00	1,250 00	Bridge . . . . .	—
Hawley . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	600
Hawley . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,500
Heath . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,800
Leverett . . . . .	2,000 00	1,000 00	1,000 00	Oiling . . . . .	16,896
Leyden . . . . .	2,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	1,000
Monroe . . . . .	1,000 00	500 00	500 00	Gravel and tar mixed in place . . . . .	3,500
Montague . . . . .	8,000 00	7,000 00	1,000 00	Bituminous macadam . . . . .	2,975
New Salem . . . . .	3,000 00	2,000 00	1,000 00	Oiling . . . . .	49,104
New Salem . . . . .	2,000 00	1,000 00	—	Gravel . . . . .	1,650
Northfield . . . . .	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place . . . . .	4,500
Orange . . . . .	1,000 00	1,000 00	—	Gravel and tar . . . . .	6,000
Orange . . . . .	21,000 00	8,000 00	1,000 00	Bituminous macadam . . . . .	2,400
Orange . . . . .	400 00	320 00	—	Oiling . . . . .	7,392
Rowe . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,200
Shelburne . . . . .	1,000 00	1,000 00	—	Bituminous macadam . . . . .	1,000
Shelburne . . . . .	2,000 00	1,500 00	500 00	Gravel . . . . .	240
Shutesbury . . . . .	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place . . . . .	3,000
Sunderland . . . . .	4,000 00	1,000 00	1,000 00	Grading and drainage . . . . .	3,800
Warwick . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,400
Warwick . . . . .	1,200 00	1,200 00	—	Gravel . . . . .	500
Warwick . . . . .	3,800 00	400 00	—	Oiling . . . . .	43,824
Wendell . . . . .	1,500 00	1,500 00	—	Oiling . . . . .	21,648
Wendell . . . . .	4,000 00	3,000 00	1,000 00	Gravel . . . . .	3,000
<i>Hampden County</i>					
Agawam . . . . .	7,500 00	5,000 00	2,500 00	Bituminous macadam . . . . .	2,800
Blandford . . . . .	3,000 00	1,700 00	1,700 00	Gravel . . . . .	2,500
Brimfield . . . . .	500 00	500 00	500 00	Oiling . . . . .	27,296
Brimfield . . . . .	3,000 00	1,000 00	1,000 00	Gravel and tar mixed in place . . . . .	1,132
Brimfield . . . . .	1,500 00	1,000 00	500 00	Grading and drainage . . . . .	2,837
Chester . . . . .	5,000 00	800 00	4,000 00	Gravel and stone retread . . . . .	3,220
Chester . . . . .	5,000 00	800 00	4,000 00	Gravel and stone retread . . . . .	5,200
Chester . . . . .	1,100 00	300 00	400 00	Bituminous macadam and bridge repair . . . . .	400
Chester . . . . .	7,000 00	—	1,000 00	Stone retread . . . . .	11,500
Chester . . . . .	1,600 00	500 00	1,100 00	Stone retread . . . . .	2,400
Chicopee . . . . .	32,500 00	20,000 00	12,500 00	Bituminous macadam . . . . .	7,690
East Longmeadow . . . . .	5,000 00	2,000 00	3,000 00	Bituminous macadam . . . . .	3,000
East Longmeadow . . . . .	500 00	500 00	500 00	Gravel and tar mixed in place . . . . .	4,400
Granville . . . . .	8,000 00	2,000 00	5,000 00	Bituminous macadam . . . . .	6,000
Granville . . . . .	800 00	473 00	—	Oiling . . . . .	10,560
Hampden . . . . .	3,000 00	1,400 00	2,200 00	Bituminous macadam . . . . .	1,550
Hampden . . . . .	5,000 00	1,400 00	3,000 00	Bituminous macadam . . . . .	3,000
Hampden . . . . .	400 00	400 00	400 00	Oiling . . . . .	4,752
Holland . . . . .	4,000 00	1,000 00	3,200 00	Gravel and tar mixed in place . . . . .	2,050
Holland . . . . .	500 00	500 00	500 00	Oiling . . . . .	18,200
Longmeadow . . . . .	20,000 00	16,000 00	10,000 00	Bituminous macadam . . . . .	11,112
Ludlow . . . . .	8,000 00	4,000 00	4,000 00	Bituminous macadam . . . . .	4,000
Monson . . . . .	4,000 00	2,000 00	2,000 00	Gravel and tar mixed in place . . . . .	2,050
Montgomery . . . . .	5,000 00	1,000 00	3,000 00	Gravel . . . . .	3,000
Palmer . . . . .	1,000 00	1,000 00	1,000 00	Oiling . . . . .	22,651
Palmer . . . . .	5,000 00	1,000 00	2,000 00	Tar macadam mixed in place . . . . .	3,450
Southwick . . . . .	4,000 00	1,500 00	2,000 00	Bituminous macadam . . . . .	2,000
Southwick . . . . .	1,600 00	330 00	—	Oiling . . . . .	21,813
Springfield . . . . .	20,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	4,155
Tolland . . . . .	6,000 00	2,000 00	3,000 00	Bituminous macadam . . . . .	11,635
Wales . . . . .	3,000 00	1,000 00	2,000 00	Gravel and tar mixed in place . . . . .	1,800
Wales . . . . .	250 00	250 00	250 00	Oiling . . . . .	7,000
West Springfield . . . . .	12,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	3,358
West Springfield . . . . .	9,000 00	6,000 00	3,000 00	Bituminous macadam . . . . .	2,328
Westfield . . . . .	6,000 00	4,000 00	2,000 00	Bituminous macadam . . . . .	4,300
Westfield . . . . .	2,700 00	1,800 00	900 00	Bituminous macadam . . . . .	1,700
Westfield . . . . .	1,500 00	1,000 00	500 00	Bituminous macadam . . . . .	4,300



COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Westfield	4,000 00	2,000 00	2,000 00	Bridge	—
Wilbraham	4,000 00	900 00	2,400 00	Bituminous macadam	2,312
<i>Hampshire County</i>					
Amherst	12,000 00	8,000 00	4,000 00	Bituminous macadam	5,935
Belchertown	16,250 00	3,750 00	5,000 00	Bituminous macadam	6,550
Belchertown	1,100 00	96 00	—	Oiling	12,919
Chesterfield	1,500 00	750 00	750 00	Gravel	1,080
Chesterfield	2,700 00	150 00	—	Oiling	31,680
Chesterfield	500 00	250 00	250 00	Gravel	450
Chesterfield	1,000 00	500 00	500 00	Gravel	800
Cummington	1,000 00	500 00	500 00	Gravel	500
Cummington	3,000 00	1,500 00	1,500 00	Gravel	2,200
Cummington	800 00	37 00	—	Oiling	7,800
Enfield	1,000 00	500 00	500 00	Oiling	20,064
Enfield	1,050 00	88 00	—	Gravel	300
Goshen	1,000 00	500 00	500 00	Gravel	500
Goshen	1,000 00	500 00	500 00	Gravel	700
Goshen	1,000 00	45 00	—	Oiling	9,400
Granby	2,000 00	1,000 00	2,000 00	Bituminous macadam	1,850
Granby	2,000 00	1,000 00	—	Oiling	16,368
Greenwich	750 00	750 00	—	Oiling	17,424
Huntington	4,200 00	1,000 00	1,000 00	Gravel	1,050
Huntington	1,800 00	1,000 00	1,000 00	Gravel and stone retread	1,800
Middlefield	400 00	200 00	200 00	Gravel	275
Middlefield	4,000 00	1,000 00	1,000 00	Gravel	2,100
Middlefield	400 00	200 00	200 00	Gravel	200
Northampton	7,000 00	5,000 00	2,000 00	Bituminous macadam	5,463
Pelham	1,000 00	500 00	500 00	Gravel	1,000
Pelham	6,800 00	1,200 00	2,000 00	Bituminous macadam	3,550
Plainfield	8,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	900
Plainfield	2,000 00	300 00	300 00	Gravel and tar mixed in place	1,000
Plainfield	9,000 00	77 00	—	Repairs and oiling	27,456
South Hadley	750 00	500 00	500 00	Gravel	100
				Repairs	200
Southampton	8,000 00	4,000 00	4,000 00	Gravel and stone mixed in place with tar	600
Ware	4,000 00	2,000 00	2,000 00	Oiling	2,670
Westhampton	1,500 00	750 00	750 00	Gravel	1,200
Williamsburg	700 00	165 00	—	Oiling	11,600
Williamsburgh	16,000 00	2,500 00	500 00	Bituminous macadam and and bridge	900
Worthington	2,000 00	1,000 00	1,000 00	Gravel	925
Worthington	1,000 00	500 00	500 00	Gravel	650
Worthington	1,000 00	500 00	500 00	Gravel	400
<i>Middlesex County</i>					
Acton	3,750 00	2,500 00	1,250 00	Gravel and tar	4,100
Acton	2,000 00	2,000 00	2,000 00	Oiling	89,232
Arlington	7,000 00	3,500 00	3,500 00	Drainage	6,838
Arlington	15,000 00	7,500 00	7,500 00	Bituminous concrete	6,838
Ashby	1,000 00	500 00	1,000 00	Oiling	17,952
Ashland	1,000 00	1,000 00	1,000 00	Oiling	23,232
Ashland	1,000 00	600 00	400 00	Gravel	900
Ayer	1,500 00	1,500 00	1,500 00	Oiling	46,094
Ayer	3,750 00	2,500 00	1,250 00	Gravel	1,936
Ayer	2,500 00	2,500 00	2,500 00	Bridge repairs	—
Bedford	1,000 00	1,000 00	1,000 00	Oiling	46,464
Bedford	200 00	200 00	200 00	Bridge repairs	—
Belmont	7,000 00	5,000 00	2,000 00	Bituminous macadam	1,336
Billerica	5,600 00	4,000 00	1,600 00	Gravel and tar	4,200
Billerica	5,600 00	4,000 00	1,600 00	Gravel and tar	4,200
Billerica	7,000 00	5,000 00	2,000 00	Bridge and approaches	—
Billerica	3,000 00	3,000 00	3,000 00	Oiling	71,803
Boxborough	750 00	750 00	750 00	Oiling	37,488
Boxborough	1,500 00	500 00	500 00	Gravel	1,500
Burlington	2,500 00	2,500 00	1,000 00	Oiling	59,136
Burlington	4,500 00	3,000 00	1,500 00	Gravel and tar	3,800
Burlington	3,000 00	2,000 00	1,000 00	Gravel	3,000
Carlisle	4,000 00	1,500 00	2,000 00	Gravel	3,700
Carlisle	1,000 00	1,000 00	1,000 00	Oiling	64,944
Chelmsford	2,000 00	2,000 00	2,000 00	Oiling	78,672
Chelmsford	4,000 00	4,000 00	4,000 00	Bituminous concrete	2,170
Concord	15,000 00	10,000 00	5,000 00	Bituminous macadam	8,886
Dracut	1,000 00	1,000 00	1,000 00	Oiling	51,216
Dracut	4,500 00	3,000 00	1,500 00	Gravel	5,600
Dunstable	1,750 00	1,750 00	1,750 00	Oiling	49,104
Dunstable	3,000 00	1,000 00	1,000 00	Oiling	42,240
Framingham	18,000 00	12,000 00	6,000 00	Bituminous macadam	5,636
Groton	3,500 00	3,500 00	3,500 00	Oiling	48,048
Groton	10,000 00	4,000 00	6,000 00	Gravel	7,500
Holliston	1,500 00	1,500 00	1,500 00	Oiling	46,992
Hopkinton	9,000 00	3,000 00	3,000 00	Grading	3,080
				Bituminous macadam	2,400
				Bridge	—

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town	County		
Hopkinton . . . . .	1,000 00	1,000 00	1,000 00	Oiling . . . . .	66,528
Hudson . . . . .	37,500 00	25,000 00	12,500 00	Bituminous macadam . . . . .	15,478
Lexington . . . . .	5,000 00	5,000 00	—	Gravel and asphalt . . . . .	5,300
Lincoln . . . . .	2,500 00	2,500 00	2,500 00	Oiling . . . . .	36,960
Littleton . . . . .	1,800 00	1,800 00	1,800 00	Oiling . . . . .	51,216
Littleton . . . . .	1,300 00	900 00	500 00	Gravel . . . . .	1,500
Littleton . . . . .	1,300 00	900 00	500 00	Gravel . . . . .	2,000
Lowell . . . . .	30,000 00	30,000 00	—	Bituminous macadam . . . . .	7,605
Malden . . . . .	20,000 00	25,000 00	5,000 00	Bituminous macadam . . . . .	3,870
Marlborough . . . . .	9,000 00	9,000 00	—	Bituminous macadam . . . . .	1,805
Melrose . . . . .	8,000 00	4,000 00	—	Gravel . . . . .	2,500
Natick . . . . .	1,000 00	1,000 00	1,000 00	Oiling . . . . .	56,496
Natick . . . . .	3,000 00	3,000 00	—	Bituminous macadam . . . . .	1,220
North Reading . . . . .	2,000 00	2,000 00	2,000 00	Oiling . . . . .	52,272
North Reading . . . . .	4,500 00	3,000 00	1,500 00	Bituminous macadam . . . . .	3,650
Pepperell . . . . .	3,000 00	3,000 00	3,000 00	Oiling . . . . .	62,336
Pepperell . . . . .	3,000 00	2,000 00	1,000 00	Gravel . . . . .	5,000
Reading . . . . .	12,000 00	8,000 00	4,000 00	Bituminous macadam . . . . .	900
				Gravel . . . . .	12,360
Sherborn . . . . .	13,000 00	5,000 00	7,000 00	Bituminous macadam . . . . .	5,914
Sherborn . . . . .	5,000 00	2,000 00	3,000 00	Gravel . . . . .	5,850
Sherborn . . . . .	2,000 00	2,000 00	2,000 00	Oiling . . . . .	71,280
Shirley . . . . .	1,500 00	1,500 00	1,500 00	Oiling . . . . .	51,216
Stoneham . . . . .	15,000 00	10,000 00	5,000 00	Bituminous macadam . . . . .	3,692
Stow . . . . .	1,200 00	1,200 00	1,200 00	Oiling . . . . .	41,184
Sudbury . . . . .	3,000 00	3,000 00	3,000 00	Oiling . . . . .	79,728
Tewksbury . . . . .	2,500 00	1,500 00	1,000 00	Gravel . . . . .	3,500
Tewksbury . . . . .	1,000 00	1,000 00	1,000 00	Oiling . . . . .	35,640
Tewksbury . . . . .	4,200 00	2,800 00	1,400 00	Bituminous macadam . . . . .	1,500
Townsend . . . . .	2,000 00	2,000 00	2,000 00	Oiling . . . . .	32,736
Townsend . . . . .	3,500 00	1,000 00	1,500 00	Gravel . . . . .	2,250
Tyngsborough . . . . .	2,000 00	2,000 00	2,000 00	Oiling . . . . .	73,360
Tyngsborough . . . . .	3,000 00	1,000 00	1,000 00	Gravel . . . . .	2,600
Tyngsborough . . . . .	3,000 00	1,000 00	1,000 00	Gravel . . . . .	2,700
Tyngsborough . . . . .	3,000 00	1,000 00	1,000 00	Gravel . . . . .	2,700
Wakefield . . . . .	11,800 00	7,800 00	4,000 00	Bituminous macadam and bituminous concrete . . . . .	7,600
Waltham . . . . .	500 00	500 00	500 00	Bituminous macadam . . . . .	400
Watertown . . . . .	9,000 00	4,500 00	4,500 00	Bituminous macadam . . . . .	1,590
Wayland . . . . .	3,000 00	3,000 00	3,000 00	Oiling . . . . .	48,576
Wayland . . . . .	6,000 00	6,000 00	3,000 00	Bituminous macadam . . . . .	2,400
Westford . . . . .	5,000 00	5,000 00	5,000 00	Oiling . . . . .	118,272
Westford . . . . .	1,500 00	1,000 00	500 00	Gravel . . . . .	2,000
Westford . . . . .	1,500 00	500 00	1,000 00	Gravel . . . . .	1,530
Westford . . . . .	3,000 00	2,000 00	1,000 00	Gravel . . . . .	2,500
Westford . . . . .	4,000 00	1,000 00	2,000 00	Gravel . . . . .	3,355
Wilmington . . . . .	3,000 00	2,000 00	1,000 00	Gravel . . . . .	3,000
Wilmington . . . . .	1,000 00	1,000 00	1,000 00	Oiling . . . . .	32,208
Winchester . . . . .	32,500 00	32,500 00	—	Bituminous concrete . . . . .	9,740
<i>Norfolk County</i>					
Bellingham . . . . .	2,650 00	—	1,325 00	Oiling . . . . .	52,000
Foxborough . . . . .	4,000 00	2,000 00	—	Gravel . . . . .	1,095
Foxborough . . . . .	7,000 00	7,000 00	—	Gravel and tar mixed in place . . . . .	4,200
Franklin . . . . .	10,000 00	10,000 00	—	Gravel and tar . . . . .	6,500
Medfield . . . . .	1,000 00	1,000 00	1,000 00	Oiling . . . . .	9,720
Medway . . . . .	1,000 00	1,000 00	1,000 00	Oiling . . . . .	—
Millis . . . . .	1,000 00	1,000 00	1,000 00	Oiling . . . . .	10,300
Needham . . . . .	9,000 00	9,000 00	—	Bituminous macadam . . . . .	3,950
Norfolk . . . . .	1,200 00	1,200 00	1,200 00	Oiling . . . . .	51,163
Norfolk . . . . .	600 00	300 00	300 00	Gravel . . . . .	518
Walpole . . . . .	2,500 00	2,500 00	—	Oiling . . . . .	12,000
Walpole . . . . .	2,000 00	2,000 00	—	Gravel stone . . . . .	1,500
Walpole . . . . .	2,000 00	2,000 00	—	Gravel stone and tar . . . . .	1,650
Weymouth . . . . .	15,000 00	15,000 00	—	Bituminous concrete . . . . .	3,930
Wrentham . . . . .	1,800 00	900 00	—	Gravel . . . . .	291
Wrentham . . . . .	4,000 00	4,000 00	—	Gravel and tar mixed in place . . . . .	2,500
Wrentham . . . . .	4,000 00	4,000 00	—	Gravel . . . . .	2,000
<i>Plymouth County</i>					
Bridgewater . . . . .	2,000 00	2,000 00	—	Gravel and bituminous ma- cadam . . . . .	5,000
Bridgewater . . . . .	2,000 00	2,000 00	—	Gravel . . . . .	4,318
Brockton . . . . .	22,500 00	22,500 00	—	Bituminous macadam . . . . .	9,160
Carver . . . . .	2,000 00	2,000 00	—	Gravel and tar mixed in place . . . . .	2,800
Hanover . . . . .	7,500 00	3,750 00	3,750 00	Gravel and tar . . . . .	8,300
Lakeville . . . . .	1,500 00	750 00	750 00	Oiling . . . . .	6,358
Marion . . . . .	2,000 00	2,000 00	—	Gravel and tar mixed in place . . . . .	2,000
Middleborough . . . . .	1,000 00	1,000 00	1,000 00	Oiling . . . . .	18,746
Pembroke . . . . .	4,000 00	2,500 00	1,500 00	Gravel and tar mixed in place . . . . .	4,880
Rockland . . . . .	12,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	5,000
West Bridgewater . . . . .	3,000 00	1,500 00	1,500 00	Bituminous macadam . . . . .	1,532
West Bridgewater . . . . .	3,000 00	1,500 00	1,500 00	Gravel . . . . .	4,600



COUNTIES AND TOWNS

	State	CONTRIBUTIONS Town	County	TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
<i>Worcester County</i>					
Ashburnham	1,000 00	750 00	1,000 00	Oiling	39,350
Athol	1,500 00	1,500 00	1,500 00	Oiling	32,512
Auburn	15,000 00	10,000 00	5,000 00	{Stone and tar mixed in place {Gravel and tar mixed in place	3,275 4,600
Barre	6,000 00	5,000 00	4,000 00	Gravel and tar mixed in place and bridge	4,430
Barre	1,200 00	1,200 00	1,200 00	Gravel and tar mixed in place	1,350
Barre	300 00	300 00	300 00	Oiling	7,824
Berlin	8,000 00	3,500 00	4,000 00	Gravel and tar mixed in place	1,995
Berlin	2,500 00	1,000 00	2,500 00	Oiling	34,830
Blackstone	4,000 00	3,000 00	2,000 00	Broken stone and tar mixed in place	4,100
Blackstone	1,500 00	1,000 00	500 00	Gravel and tar mixed in place	1,800
Blackstone	1,000 00	1,000 00	1,000 00	Oiling	23,472
Bolton	15,000 00	2,000 00	5,000 00	Bituminous macadam	5,700
Bolton	1,000 00	500 00	1,000 00	Oiling	43,929
Boylston	4,000 00	1,000 00	2,000 00	Oiling	—
Boylston	11,000 00	3,000 00	7,000 00	Gravel and tar mixed in place	5 897
Boylston	2,000 00	1,000 00	2,000 00	Oiling	48,338
Brookfield	3,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	1,700
Brookfield	1,000 00	500 00	1,000 00	Oiling	21,400
Charlton	3,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	1,900
Charlton	500 00	200 00	500 00	Oiling	22,030
Clinton	10,000 00	—	—	Bituminous macadam	1,500
Dana	2,600 00	500 00	1,000 00	Gravel	900
Dana	2,500 00	1,000 00	2,500 00	Oiling	61,491
Douglas	4,500 00	2,000 00	2,500 00	Gravel and tar mixed in place	4 400
Dudley	9,000 00	5,000 00	4,000 00	Gravel and tar mixed in place	10,190
East Brookfield	2,500 00	1,000 00	1,500 00	Grading and bridge	1,550
East Brookfield	2,000 00	800 00	1,200 00	Grading and drainage	1 200
Grafton	2,000 00	2,000 00	2,000 00	Oiling	27,047
Hardwick	3,600 00	1,400 00	2,600 00	Bituminous macadam	1,596
Hardwick	1,300 00	1,300 00	1,300 00	Oiling	55,704
Harvard	2,000 00	1,000 00	2,000 00	Oiling	46 547
Holden	500 00	500 00	500 00	Oiling	34,048
Holden	5,000 00	3,000 00	2,000 00	Gravel and tar mixed in place	2,770
Hubbardston	1,000 00	500 00	1,000 00	Gravel and tar mixed in place	1,050
Hubbardston	6,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	1 800
Hubbardston	1,400 00	700 00	1,400 00	Oiling	55,668
Leicester	4,000 00	1,500 00	2,000 00	Gravel and tar mixed in place	2,050
Lunenburg	1,000 00	500 00	1,000 00	Oiling	30,429
Mendon	1,100 00	500 00	1,100 00	Oiling	34,600
Mendon	4,600 00	1,100 00	2,000 00	Gravel and tar mixed in place	2,950
Milford	6,000 00	4,000 00	2,000 00	Bituminous macadam	2,690
Millville	3,000 00	—	3,000 00	Gravel and tar mixed in place	761
New Braintree	2,000 00	750 00	1,000 00	Gravel and tar mixed in place and bridge	750 39,109
New Braintree	1,000 00	500 00	1,000 00	Oiling	
North Brookfield	4,000 00	2,000 00	1,500 00	Gravel and tar mixed in place and bridge	2,300
North Brookfield	200 00	200 00	200 00	Oiling	5,341
Northbridge	6,000 00	5,000 00	4,000 00	Gravel and tar mixed in place	4,600
Northbridge	2,000 00	1,500 00	4,000 00	Bituminous macadam	2 515
Northbridge	3,000 00	2,000 00	1,000 00	Gravel and tar mixed in place	1,900
Northbridge	1,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	2,100
Oakham	5,000 00	2,000 00	3,000 00	Oiling	9,300
Oakham	1,100 00	800 00	1,100 00	Gravel	5,000
Oxford	1,150 00	750 00	1,150 00	Oiling	28,809
Paxton	5,000 00	2,000 00	3,000 00	Oiling	34,918
Paxton	1,200 00	600 00	1,200 00	Gravel	3,300
Petersham	1,500 00	1,500 00	1,500 00	Oiling	15,470
Petersham	4,000 00	1,500 00	2,000 00	Oiling	37,563
Phillipston	4,500 00	1,000 00	2,000 00	Gravel and tar mixed in place	3 450
Phillipston	4,500 00	1,000 00	4,500 00	Gravel and tar mixed in place	7,250
Phillipston	500 00	500 00	500 00	Gravel and tar mixed in place	3,600
Princeton	4,000 00	1,500 00	2,000 00	Oiling	34,100
Princeton	2,000 00	1,000 00	2,000 00	Grading and bridge	949
Royalston	1,500 00	500 00	500 00	Oiling	70 980
Royalston	3,200 00	1,300 00	2,000 00	Gravel	19,430
Rutland	3,000 00	1,250 00	2,000 00	Oiling	50,637
Rutland	600 00	600 00	600 00	Gravel and tar mixed in place	1,860
Rutland	1,200 00	600 00	1,200 00	Gravel	2,815
Shrewsbury	15,000 00	10,000 00	5,000 00	Oiling	45,062
Southborough	1,700 00	1,700 00	1,700 00	Stone and tar mixed in place	625
Southborough	300 00	300 00	300 00	Gravel and tar mixed in place	7,075
Southbridge	15,000 00	10,000 00	5,000 00	Bituminous macadam and bridge	614
Spencer	6,000 00	2,500 00	4,000 00	Oiling	13,360
Spencer	500 00	500 00	500 00	Bituminous macadam	5,250
				Gravel and tar mixed in place	4,700
				Oiling	25,238

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town	County		
Sterling	4,500 00	2,000 00	3,500 00	Gravel and tar mixed in place	5,850
Sterling	4,500 00	2,000 00	3,500 00	Gravel and tar mixed in place	3,685
Sterling	2,000 00	1,000 00	2,000 00	Oiling	61,411
Sturbridge	2,000 00	1,000 00	2,000 00	Gravel and tar mixed in place	2,000
Sutton	5,000 00	2,000 00	5,000 00	Gravel and tar mixed in place	4,450
Sutton	1,200 00	600 00	1,200 00	Oiling	23,979
Sutton	5,000 00	500 00	5,000 00	Gravel and tar mixed in place	6,200
Templeton	4,000 00	3,000 00	2,000 00	Gravel and tar mixed in place	4,200
Templeton	1,000 00	1,000 00	1,000 00	Oiling	40,347
Upton	5,000 00	2,000 00	3,000 00	Gravel and tar mixed in place	3,251
Upton	5,000 00	2,000 00	3,000 00	{ Gravel and tar mixed in place Grading	3,750 3,800
Upton	1,000 00	500 00	1,000 00	Oiling	8,450
Uxbridge	5,000 00	4,000 00	3,000 00	Gravel and tar mixed in place	6,500
Uxbridge	750 00	500 00	250 00	Oiling	5,280
Uxbridge	7,000 00	6,000 00	5,000 00	Gravel and tar mixed in place	6,100
Warren	800 00	400 00	800 00	Oiling	16,675
West Boylston	5,000 00	2,000 00	3,000 00	Gravel and tar mixed in place	5,000
West Boylston	1,000 00	800 00	1,000 00	Oiling	26,863
West Brookfield	3,000 00	1,000 00	2,000 00	Gravel and asphalt emulsion mixed in place	4,200
West Brookfield	400 00	200 00	400 00	Oiling	8,525
Westborough	800 00	800 00	800 00	Oiling	39,960
Westminster	4,500 00	1,500 00	3,000 00	Gravel and tar mixed in place	8,955
Westminster	2,000 00	750 00	1,000 00	Gravel and tar mixed in place	1,566
Westminster	2,000 00	1,000 00	2,000 00	Oiling	49,772
Winchendon	1,200 00	600 00	1,200 00	Oiling	19,537

## EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various counties were:—

Barnstable, \$52,045.32	Hampshire, \$194,738.41
Berkshire, \$273,782.05	Middlesex, \$437,445.93
Bristol, \$22,540.35	Norfolk, \$69,591.17
Dukes, \$28,561.01	Plymouth, \$65,064.97
Essex, \$117,307.82	Worcester, \$361,846.58
Franklin, \$143,373.26	Total, \$1,968,729.01
Hampden, \$202,432.14	

Details of the foregoing expenditures follow:—

*Barnstable County.*—Bourne, \$36,605.18; Mashpee, \$1,885.83; Orleans, \$13,554.31.

*Berkshire County.*—Adams, \$7,699.27; Alford, \$2,033.37; Becket, \$6,469.11; Cheshire, \$6,866.04; Clarksburg, \$2,463.82; Egremont, \$3,943.07; Florida, \$4,928.83; Great Barrington, \$18,317.09; Hancock, \$39,742.23; Hinsdale, \$5,668.43; Lanesboro, \$6,269.91; Lee, \$6,949.05; Lenox, \$3,696.63; Monterey, \$614.37; Mt. Washington, \$1,848.07; New Ashford, \$492.65; New Marlboro, \$7,433.59; Otis, \$7,393.26; Peru, \$7,033.17; Pittsfield, \$29,163.52; Richmond, \$3,080.53; Sandisfield, \$4,928.84; Savoy, \$35,269.00; Sheffield, \$4,928.84; Stockbridge, \$9,931.27; Tyringham, \$4,066.29; Washington, \$4,928.61; West Stockbridge, \$9,848.42; Williamstown, \$25,310.74; Windsor, \$2,464.03.

*Bristol County.*—Berkley, \$3,955.25; Dartmouth, \$1,032.10; Easton, \$5,914.61; Freetown, \$1,232.21; Rehoboth, \$9,484.09; Swansea, \$922.09.

*Dukes County.*—Chilmark, \$267.20; Oak Bluffs, \$21,956.17; Tisbury, \$6,337.64.

*Essex County.*—Amesbury, \$7,929.25; Boxford, \$15,497.85; Georgetown, \$1,848.32; Gloucester, \$6,161.05; Haverhill, \$32,886.42; Ipswich, \$1,848.32; Marblehead, \$12,561.50; Merrimac, \$4,312.74; Methuen, \$6,432.74; Middleton, \$1,232.21; Nahant, \$1,848.28; Rowley, \$616.11; Salisbury, \$23,024.16; West Newbury, \$1,108.87.

*Franklin County.*—Ashfield, \$15,151.06; Buckland, \$7,393.26; Charle-  
mont, \$2,464.42; Colrain, \$16,957.49; Conway, \$3,696.52; Deerfield, \$3,696.63; Erving, \$2,675.56; Gill, \$6,117.93; Greenfield, \$6,503.98; Hawley, \$2,464.42; Heath, \$2,464.42; Leverett, \$2,464.42; Leyden, \$2,464.42; Monroe, \$1,232.21; Montague, \$11,200.02; New Salem, \$6160.93; North-



field, \$2,464.42; Orange, \$21,308.72; Rowe, \$2,464.42; Shelburne, \$1,-232.21; Shutesbury, \$2,464.42; Sunderland, \$4,928.84; Warwick, \$8,-625.38; Wendell, \$6,777.16.

*Hampden County.*—Agawam, \$3,149.03; Blandford, \$5,048.58; Brimfield, \$6,143.50; Chester, \$24,244.45; Chicopee, \$14,495.87; East Longmeadow, \$6,777.16; Granville, \$12,327.16; Hampden, \$10,349.25; Holland, \$5,768.37; Longmeadow, \$11,768.87; Ludlow, \$7,622.27; Monson, \$3,-557.31; Montgomery, \$6,160.31; Palmer, \$4,168.29; Southwick, \$10,767.97; Springfield, \$17,063.47; Tolland, \$7,393.26; Wales, \$3,523.30; Westfield, \$17,497.39; West Springfield, \$17,834.15; Wilbraham, \$6,772.18.

*Hampshire County.*—Amherst, \$13,348.30; Belchertown, \$55,584.27; Chesterfield, \$7,020.52; Cummington, \$6,129.40; Enfield, \$2,526.03; Goshen, \$3,696.63; Granby, \$4,928.84; Greenwich, \$924.16; Huntington, \$7,146.82; Middlefield, \$10,589.56; Northampton, \$8,625.47; Pelham, \$11,-338.93; Plainfield, \$23,637.26; Southampton, \$5,878.83; South Hadley, \$1,564.22; Ware, \$4,928.84; Westhampton, \$9,241.58; Williamsburg, \$11,-585.50; Worthington, \$6,043.25.

*Middlesex County.*—Acton, \$7,085.21; Arlington, \$26,083.18; Ashby, \$1,232.21; Ashland, \$2,463.73; Ayer, \$6,646.84; Bedford, \$1,478.65; Belmont, \$11,313.34; Billerica, \$22,368.41; Boxboro, \$2,772.48; Burlington, \$11,335.38; Carlisle, \$5,175.25; Chelmsford, \$7,293.86; Concord, \$14,-828.80; Dracut, \$6,777.16; Dunstable, \$4,280.43; Framingham, \$21,-460.23; Groton, \$12,519.59; Holliston, \$1,868.68; Hopkinton, \$7,208.22; Hudson, \$40,352.57; Lexington, \$5,853.00; Lincoln, \$2,248.78; Littleton, \$5,421.49; Lowell, \$640.85; Malden, \$11,974.50; Marlboro, \$4,436.10; Melrose, \$1,330.49; Natick, \$4,922.43; No. Reading, \$8,009.30; Pepperell, \$7,393.26; Reading, \$11,424.63; Sherborn, \$26,643.44; Shirley, \$2,224.21; Stoneham, \$12,616.81; Stow, \$1,478.65; Sudbury, \$3,696.07; Tewksbury, \$7,793.53; Townsend, \$6,774.84; Tyngsboro, \$13,549.52; Wakefield, \$11,-958.53; Waltham, \$612.58; Watertown, \$10,319.16; Wayland, \$11,670.38; Westford, \$14,415.20; Wilmington, \$4,946.61; Winchester, \$30,547.35.

*Norfolk County.*—Bellingham, \$2,903.28; Foxboro, \$10,350.57; Franklin, \$8,956.57; Medfield, \$1,232.20; Medway, \$903.62; Millis, \$1,804.46; Needham, \$8,117.05; Norfolk, \$3,368.12; Plainville, \$1,481.77; Walpole, \$8,912.55; Weymouth, \$13,674.83; Wrentham, \$7,886.15.

*Plymouth County.*—Bridgewater, \$5,530.86; Brockton, \$13,528.48; Carver, \$2,464.42; Hanover, \$6,651.62; Lakeville, \$1,847.89; Marion, \$2,464.42; Marshfield, \$5,725.15; Middleboro, \$2,879.45; Pembroke, \$4,-928.84; Rockland, \$11,715.98; West Bridgewater, \$7,327.86.

*Worcester County.*—Ashburnham, \$3,926.20; Athol, \$1,848.32; Auburn, \$10,935.13; Barre, \$6,951.43; Berlin, \$11,034.72; Blackstone, \$6,811.97; Bolton, \$17,809.17; Boylston, \$21,013.75; Brookfield, \$2,731.97; Charlton, \$3,997.75; Clinton, \$9,368.59; Dana, \$6,713.49; Douglas, \$5,534.98; Dudley, \$3,755.88; East Brookfield, \$3,265.36; Grafton, \$2,427.89; Hardwick, \$5,426.41; Harvard, \$3,695.29; Holden, \$6,371.21; Hubbardston, \$10,-520.95; Leicester, \$4,928.67; Leomister, \$633.02; Lunenburg, \$8,210.35; Mendon, \$8,023.83; Milford, \$7,464.52; Millville, \$5,360.65; New Braintree, \$2,956.04; N. Brookfield, \$6,402.86; Northboro, \$352.46; Northbridge, \$11,171.12; Oakham, \$7,380.73; Oxford, \$1,399.53; Paxton, \$6,-703.50; Petersham, \$4,304.15; Phillipston, \$6,620.62; Princeton, \$7,-036.67; Royalston, \$6,407.45; Rutland, \$7,021.38; Shrewsbury, \$6,375.89; Southboro, \$1,879.12; Southbridge, \$15,929.77; Spencer, \$3,442.09; Sterling, \$11,900.92; Sturbridge, \$2,969.80; Sutton, \$14,237.48; Templeton, \$5,065.42; Upton, \$14,044.00; Uxbridge, \$12,094.76; Warren, \$2,118.59; West Boylston, \$7,822.91; West Brookfield, \$5,485.83; Westboro, \$985.77; Westminster, \$9,581.83; Winchendon, \$1,394.39.

# REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS.

(Sections 26 to 29 and 31 of Chapter 81, General Laws, as amended)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:

Counties and Towns	Miles of Road	State	Allotment Town
<i>Barnstable County:</i>			
Brewster . . . . .	40	\$4,000 00	\$4,000 00
Dennis . . . . .	79	7,900 00	7,900 00
Eastham . . . . .	41	4,100 00	3,075 00
Mashpee . . . . .	27	2,700 00	2,025 00
Sandwich . . . . .	67	6,700 00	6,700 00
Truro . . . . .	29	2,900 00	3,625 00
Wellfleet . . . . .	36	3,600 00	4,500 00
<i>Berkshire County:</i>			
Alford . . . . .	19	1,900 00	760 00
Becket . . . . .	58	5,800 00	2,320 00
Cheshire . . . . .	42	4,200 00	4,200 00
Clarksburg . . . . .	14	1,400 00	2,100 00
Egremont . . . . .	32	3,200 00	2,400 00
Florida . . . . .	43	4,300 00	3,225 00
Hancock . . . . .	30	3,000 00	1,200 00
Hinsdale . . . . .	35	3,500 00	2,625 00
Lanesborough . . . . .	42	4,200 00	3,150 00
Monterey . . . . .	52	5,200 00	2,080 00
Mount Washington . . . . .	20	2,000 00	500 00
New Ashford . . . . .	9	900 00	360 00
New Marlborough . . . . .	85	8,500 00	3,400 00
Otis . . . . .	49	4,900 00	1,225 00
Peru . . . . .	37	3,700 00	555 00
Richmond . . . . .	34	3,400 00	1,700 00
Sandisfield . . . . .	79	7,900 00	1,185 00
Savoy . . . . .	56	5,600 00	840 00
Sheffield . . . . .	77	7,700 00	3,850 00
Tyringham . . . . .	25	2,500 00	1,000 00
Washington . . . . .	51	5,100 00	765 00
West Stockbridge . . . . .	36	3,600 00	2,700 00
Windsor . . . . .	65	6,500 00	975 00
<i>Bristol County:</i>			
Berkley . . . . .	42	4,200 00	2,100 00
Freetown . . . . .	47	4,700 00	3,525 00
Norton . . . . .	57	5,700 00	5,700 00
Raynham . . . . .	45	4,500 00	4,500 00
*Swansea . . . . .	56	5,600 00	8,400 00
*Rehoboth . . . . .	109	10,900 00	5,450 00
<i>Dukes County:</i>			
Chilmark . . . . .	14	1,400 00	1,400 00
West Tisbury . . . . .	13	1,300 00	1,950 00
<i>Essex County:</i>			
Boxford . . . . .	53	5,300 00	2,650 00
Essex . . . . .	21	2,100 00	3,150 00
Georgetown . . . . .	35	3,500 00	4,375 00



Counties and Towns	Miles of Road	Allotment	
		State	Town
Groveland . . . . .	30	3,000 00	3,750 00
Merrimac . . . . .	31	3,100 00	4,650 00
Middleton . . . . .	30	3,000 00	4,500 00
Newbury . . . . .	37	3,700 00	4,625 00
Rowley . . . . .	31	3,100 00	3,100 00
Topsfield . . . . .	38	3,800 00	5,700 00
West Newbury . . . . .	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield . . . . .	81	8,100 00	3,240 00
Bernardston . . . . .	40	4,000 00	3,000 00
Buckland . . . . .	45	4,500 00	5,625 00
Charlemont . . . . .	49	4,900 00	2,450 00
Colrain . . . . .	84	8,400 00	3,360 00
Conway . . . . .	72	7,200 00	2,880 00
Deerfield . . . . .	74	7,400 00	9,250 00
Gill . . . . .	34	3,400 00	2,550 00
Hawley . . . . .	49	4,900 00	735 00
Heath . . . . .	53	5,300 00	795 00
Leverett . . . . .	38	3,800 00	1,520 00
Leyden . . . . .	39	3,900 00	585 00
Monroe . . . . .	18	1,800 00	2,250 00
Northfield . . . . .	66	6,600 00	4,950 00
New Salem . . . . .	64	6,400 00	960 00
Rowe . . . . .	41	4,100 00	1,640 00
Shelburne . . . . .	48	4,800 00	6,000 00
Shutesbury . . . . .	40	4,000 00	1,000 00
Warwick . . . . .	55	5,500 00	825 00
Wendell . . . . .	48	4,800 00	2,400 00
<i>Hampden County:</i>			
Blandford . . . . .	78	7,800 00	1,950 00
Brimfield . . . . .	59	5,900 00	2,950 00
Chester . . . . .	68	6,800 00	3,400 00
Granville . . . . .	72	7,200 00	5,400 00
Hampden . . . . .	34	3,400 00	1,700 00
Holland . . . . .	30	3,000 00	450 00
Monson . . . . .	101	10,100 00	7,575 00
Montgomery . . . . .	27	2,700 00	675 00
Southwick . . . . .	50	5,000 00	5,000 00
Tolland . . . . .	41	4,100 00	615 00
Wales . . . . .	25	2,500 00	1,000 00
Wilbraham . . . . .	43	4,300 00	6,450 00
<i>Hampshire County:</i>			
Belchertown . . . . .	112	11,200 00	4,480 00
Chesterfield . . . . .	59	5,900 00	1,475 00
Cummington . . . . .	49	4,900 00	1,225 00
Enfield . . . . .	37	3,700 00	1,480 00
Goshen . . . . .	28	2,800 00	700 00
Hadley . . . . .	58	5,800 00	7,250 00
Granby . . . . .	48	4,800 00	2,400 00
Greenwich . . . . .	39	3,900 00	1,560 00
Huntington . . . . .	41	4,100 00	3,075 00
Middlefield . . . . .	41	4,100 00	615 00
Pelham . . . . .	39	3,900 00	1,560 00
Plainfield . . . . .	49	4,900 00	735 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Prescott . . . . .	39	3,900 00	585 00
Southampton . . . . .	56	5,600 00	2,240 00
Westhampton . . . . .	50	5,000 00	750 00
Williamsburg . . . . .	43	4,300 00	3,225 00
Worthington . . . . .	68	6,800 00	1,020 00
<i>Middlesex County:</i>			
Acton . . . . .	58	5,800 00	8,700 00
Ashby . . . . .	56	5,600 00	2,240 00
Ashland . . . . .	38	3,800 00	5,700 00
Bedford . . . . .	35	3,500 00	5,250 00
Boxborough . . . . .	23	2,300 00	920 00
Burlington . . . . .	34	3,400 00	5,100 00
Carlisle . . . . .	42	4,200 00	3,150 00
Dracut . . . . .	61	6,100 00	9,150 00
Dunstable . . . . .	37	3,700 00	925 00
Groton . . . . .	70	7,000 00	10,500 00
Holliston . . . . .	50	5,000 00	7,500 00
Hopkinton . . . . .	66	6,600 00	6,600 00
Lincoln . . . . .	40	4,000 00	6,000 00
Littleton . . . . .	42	4,200 00	5,250 00
North Reading . . . . .	31	3,100 00	4,650 00
Pepperell . . . . .	68	6,800 00	6,800 00
Sherborn . . . . .	43	4,300 00	4,300 00
Shirley . . . . .	46	4,600 00	4,600 00
Stow . . . . .	45	4,500 00	3,375 00
Sudbury . . . . .	64	6,400 00	4,800 00
Tewksbury . . . . .	56	5,600 00	8,400 00
Townsend . . . . .	70	7,000 00	5,250 00
Tyngsborough . . . . .	40	4,000 00	3,000 00
Westford . . . . .	85	8,500 00	10,625 00
<i>Norfolk County:</i>			
Bellingham . . . . .	44	4,400 00	6,600 00
Medfield . . . . .	40	4,000 00	6,000 00
Medway . . . . .	44	4,400 00	6,600 00
Millis . . . . .	39	3,900 00	5,850 00
Norfolk . . . . .	41	4,100 00	4,100 00
Plainville . . . . .	32	3,200 00	4,000 00
<i>Plymouth County:</i>			
Carver . . . . .	68	6,800 00	6,800 00
Halifax . . . . .	34	3,400 00	3,400 00
Hanson . . . . .	36	3,600 00	5,400 00
Lakeville . . . . .	42	4,200 00	3,150 00
Norwell . . . . .	47	4,700 00	4,700 00
Pembroke . . . . .	48	4,800 00	6,000 00
Plympton . . . . .	30	3,000 00	1,500 00
Rochester . . . . .	50	5,000 00	3,750 00
<i>Worcester County:</i>			
Ashburnham . . . . .	75	7,500 00	5,625 00
Barre . . . . .	110	11,000 00	8,250 00
Berlin . . . . .	39	3,900 00	2,925 00
Blackstone . . . . .	34	3,400 00	5,100 00
Bolton . . . . .	53	5,300 00	2,650 00
Boylston . . . . .	40	4,000 00	3,000 00



Counties and Towns	Miles of Road	Allotment	
		State	Town
Brookfield . . . . .	37	3,700 00	3,700 00
Charlton . . . . .	116	11,600 00	4,640 00
Dana . . . . .	43	4,300 00	1,720 00
Douglas . . . . .	70	7,000 00	5,250 00
Dudley . . . . .	63	6,300 00	7,875 00
East Brookfield . . . . .	19	1,900 00	2,375 00
Grafton . . . . .	68	6,800 00	10,200 00
Hardwick . . . . .	96	9,600 00	7,200 00
Harvard . . . . .	56	5,600 00	5,600 00
Holden . . . . .	77	7,700 00	7,700 00
Hubbardston . . . . .	75	7,500 00	1,875 00
Lancaster . . . . .	58	5,800 00	7,250 00
Leicester . . . . .	66	6,600 00	8,250 00
Lunenburg . . . . .	66	6,600 00	4,950 00
Mendon . . . . .	36	3,600 00	3,600 00
New Braintree . . . . .	49	4,900 00	1,225 00
North Brookfield . . . . .	69	6,900 00	6,900 00
Northborough . . . . .	46	4,600 00	4,600 00
Oakham . . . . .	45	4,500 00	1,125 00
Oxford . . . . .	66	6,600 00	8,250 00
Paxton . . . . .	29	2,900 00	2,175 00
Petersham . . . . .	70	7,000 00	3,500 00
Phillipston . . . . .	41	4,100 00	1,025 00
Princeton . . . . .	72	7,200 00	2,880 00
Royalston . . . . .	67	6,700 00	1,675 00
Rutland . . . . .	68	6,800 00	3,400 00
Southborough . . . . .	45	4,500 00	6,750 00
Spencer . . . . .	100	10,000 00	12,500 00
Sterling . . . . .	72	7,200 00	5,400 00
Sturbridge . . . . .	70	7,000 00	3,500 00
Sutton . . . . .	84	8,400 00	4,200 00
Templeton . . . . .	63	6,300 00	7,875 00
Upton . . . . .	60	6,000 00	4,500 00
Warren . . . . .	71	7,100 00	8,875 00
West Boylston . . . . .	35	3,500 00	5,250 00
West Brookfield . . . . .	53	5,300 00	3,975 00
Westborough . . . . .	57	5,700 00 . . . . .	8,550 00
Westminster . . . . .	77	7,700 00	3,080 00

#### EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various Counties were:—

Barnstable, \$32,763.89	Hampden, \$68,996.61
Berkshire, \$109,474.33	Hamphire, \$93,087.88
Bristol, \$39,614.04	Middlesex, \$132,274.53
Dukes, \$3,192.59	Norfolk, \$25,779.72
Essex, \$35,043.94	Plymouth, \$38,256.93
Franklin, \$115,299.03	Worcester, \$270,729.66
	Total, \$964,513.15

Details of the foregoing expenditures follow:

*Barnstable County.*—Brewster, \$4,102.97; Dennis, \$7,563.83; Eastham, \$4,549.18; Mashpee, \$2,786.10; Sandwich, \$6,992.45; Truro, \$3,047.30; Wellfleet, \$3,722.06.

*Berkshire County.*—Alford, \$1,496.47; Becket, \$7,101.71; Cheshire, \$4,178.07; Clarksburg, \$1,692.59; Egremont, \$3,017.37; Florida, \$4,493.72; Hancock, \$3,871.19; Hinsdale, \$3,590.31; Lanesboro, \$4,712.75; Monterey,

\$5,805.16; Mt. Washington, \$2,003.32; New Ashford, \$810.81; New Marlboro, \$9,960.50; Otis, \$4,955.80; Peru, \$3,610.46; Richmond, \$4,132.33; Sandisfield, \$9,490.12; Savoy, \$6,156.91; Sheffield, \$8,879.67; Tyringham, \$2,573.66; Washington, \$5,678.26; West Stockbridge, \$3,918.77; Windsor, \$7,344.38.

*Bristol County.*—Berkley, \$5,440.76; Freetown, \$5,115.11; Norton, \$6,203.43; Raynham, \$4,897.44; Rehoboth, \$11,862.70; Swansea, \$6,094.60.

*Dukes County.*—Chilmark, \$1,712.47; West Tisbury, \$1,480.12.

*Essex County.*—Boxford, \$5,768.10; Georgetown, \$3,809.12; Groveland, \$3,264.96; Merrimac, \$3,373.80; Middleton, \$3,264.96; Newbury, \$4,026.79; Rowley, \$3,373.80; Topsfield, \$4,135.62; West Newbury, \$4,026.79.

*Franklin County.*—Ashfield, \$8,080.78; Bernardston, \$4,353.27; Buckland, \$5,060.69; Charlemont, \$4,843.03; Colrain, \$9,794.12; Conway, \$8,372.29; Deerfield, \$7,971.95; Gill, \$3,781.92; Hawley, \$5,332.77; Heath, \$5,768.10; Leverett, \$4,026.79; Leyden, \$4,244.45; Monroe, \$1,904.56; New Salem, \$6,992.46; Northfield, \$6,747.59; Rowe, \$4,353.28; Shelburne, \$6,421.09; Shutesbury, \$4,217.24; Sunderland, \$244.87; Warwick, \$5,686.48; Wendell, \$5,958.56; Whately, \$1,142.74.

*Hampden County.*—Blandford, \$8,897.70; Brimfield, \$6,572.87; Chester, \$7,609.83; Granville, \$7,835.77; Hampden, \$3,455.42; Holland, \$2,882.54; Monson, \$11,406.89; Montgomery, \$3,295.09; Southwick, \$5,441.61; Tolland, \$4,634.98; Wales, \$2,311.34; Wilbraham, \$4,652.57.

*Hampshire County.*—Belchertown, \$12,188.72; Chesterfield, \$6,419.58; Cummington, \$5,332.75; Enfield, \$3,342.31; Goshen, \$3,047.30; Granby, \$4,870.24; Greenwich, \$4,434.59; Hadley, \$6,312.23; Hatfield, \$1,224.36; Huntington, \$4,190.43; Middlefield, \$4,462.12; Pelham, \$4,162.83; Plainfield, \$5,332.77; Prescott, \$3,645.88; Southampton, \$6,094.60; Westhampton, \$5,441.60; Williamsburg, \$4,679.78; Worthington, \$7,905.79.

*Middlesex County.*—Acton, \$6,312.26; \$6,094.60; Ashland, \$4,135.62; Bedford, \$3,809.12; Boxboro, \$2,503.14; Burlington, \$3,700.29; Carlisle, \$4,570.95; Dracut, \$6,638.76; Dunstable, \$4,026.79; Groton, \$7,618.25; Holliston, \$5,441.60; Hopkinton, \$8,858.93; Lincoln, \$4,353.28; Littleton, \$4,570.95; No. Reading, \$3,373.80; Pepperell, \$7,400.58; Sherborn, \$4,679.78; Shirley, \$5,006.28; Stow, \$4,897.44; Sudbury, \$6,965.25; Tewksbury, \$6,094.60; Townsend, \$7,618.25; Tyngsboro, \$4,353.28; Westford, \$9,250.73.

*Norfolk County.*—Bellingham, \$4,448.63; Medfield, \$4,353.28; Medway, \$4,788.61; Millis, \$4,244.45; Norfolk, \$4,462.12; Plainville, \$3,482.63.

*Plymouth County.*—Carver, \$7,236.59; Halifax, \$4,002.87; Hanson, \$4,256.02; Lakeville, \$4,521.61; Norwell, \$4,944.69; Pembroke, \$4,750.42; Plympton, \$3,270.79; Rochester, \$5,273.94.

*Worcester County.*—Ashburnham, \$7,817.80; Barre, \$11,330.82; Berlin, \$3,843.80; Bolton, \$5,554.63; Boylston, \$4,361.00; Brookfield, \$4,431.60; Charlton, \$12,725.18; Dana, \$4,237.90; Douglas, \$6,658.55; Dudley, \$6,856.42; East Brookfield, \$1,929.63; Grafton, \$6,506.09; Harvard, \$6,094.60; Hardwick, \$10,273.47; Holden, \$7,552.08; Hubbardston, \$7,351.04; Lancaster, \$6,312.26; Leicester, \$6,358.65; Lunenburg, \$7,434.82; Mendon, \$3,836.32; New Braintree, \$4,410.14; No. Brookfield, \$5,807.44; Northboro, \$5,006.28; Oakham, \$4,157.49; Oxford, \$5,281.86; Paxton, \$3,250.03; Petersham, \$7,618.25; Phillipston, \$4,462.12; Princeton, \$6,704.75; Royalston, \$7,286.36; Rutland, \$6,039.51; Southboro, \$4,706.41; Spencer, \$11,779.99; Sterling, \$7,786.41; Sturbridge, \$6,292.57; Sutton, \$7,701.31; Templeton, \$6,063.80; Upton, \$5,382.90; Warren, \$7,696.49; West Boylston, \$3,260.89; West Brookfield, \$4,276.10; Westboro, \$6,203.43; Westminster, \$8,088.47.



## HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

In accordance with the provisions of Chapter 347, Acts of 1933, the following contract was entered into:—

*Quincy-Weymouth*, September 27, 1933, contract made with Blakeslee Rollins Corporation, of Boston, for furnishing and erecting a temporary bridge with approaches over Fore River; the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$86,924.10. Work about one-fourth completed. Expenditure during 1933, \$29,806.61.

In accordance with the provisions of Chapter 445, Acts of 1931, as amended by Chapter 258, Acts of 1932, the following contract was entered into:—

*Revere*, February 28, 1933, contract made with C & R Construction Company, of Boston, for constructing and reconstructing about 5,980 feet of State and City Highway; the surface consisting of bituminous macadam. The proposal amounted to \$131,909.84. Work completed October 7, 1933. Expenditure during 1933, \$123,407.99.

In accordance with the provisions of Chapter 302, Acts of 1932, the following contract was entered into:—

*Cambridge-Arlington-Belmont*, October 25, 1933, contract made with B. Perini & Sons, Inc., of Framingham, for constructing about 8,220 feet of State highway on new location in Cambridge, Arlington and Belmont; and constructing a reinforced concrete bridge over Alewife Brook at the dividing line between the town of Arlington and city of Cambridge, a three-span steel stringer bridge over the Boston & Maine Railroad in Arlington, and a two-span steel stringer bridge under Pleasant Street at the dividing line between the towns of Arlington and Belmont; the surface of the roadway consisting of sections of reinforced cement concrete, bituminous macadam, and reinforced cement concrete on each side of bituminous macadam section, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$556,931.18. Work just commenced. Expenditure during 1933, \$23,898.00.

In accordance with the provisions of Chapter 420, Acts of 1930, as amended by Chapter 454, Acts of 1931, the following contract was entered into:—

*Boston*, November 23, 1933, contract made with A. G. Tomasello & Son, Inc., of Boston, for constructing about 1,568 feet of State highway on Water Street; the surface consisting of cement concrete "Sheet Type" in the center and one lane of bituminous macadam on each side. The proposal amounted to \$36,546.40. Work not yet commenced.

## NEW OFFICE BUILDING FOR DEPARTMENT OF PUBLIC WORKS AND WORK INCIDENTAL THERETO

April 11, 1933, contract made with the Laboratory Furniture Co., Inc., of New York, for furnishing, building and installing laboratory furniture. The proposal amounted to \$2,282.20. Work completed July 21, 1933. Expenditure during 1933, \$2,084.57.

April 18, 1933, contract made with the Allen Shade Holder Company, Inc., of Boston, for furnishing and installing window shades. The proposal amounted to \$2,054.57. Work completed August 12, 1933. Expenditure during 1933, \$3,015.57.

April 28, 1933, contract made with The Massachusetts Motor Trucking & Garage Co., of Boston, for moving furniture and equipment of the Engineering and Main Offices of the Department of Public Works. The proposal amounted to \$1,891.75. Work completed May 23, 1933. Expenditure during 1933, \$1,980.15.

May 9, 1933, contract made with The E. F. Hauserman Company, of Boston, for dismantling and re-assembling office partitions for the Engineering Offices of the Department of Public Works. The proposal



amounted to \$394.00. Work completed July 29, 1933. Expenditure during 1933, \$574.00.

June 21, 1933, contract made with Snead & Company, of Boston, for furnishing and installing metal partitions. The proposal amounted to \$9,950.00. Work completed January 15, 1934. Expenditure during 1933, \$8,037.10.

Nov. 21, 1933, contract made with the Allen Shade Holder Company, Inc., of Boston, for furnishing and installing window shades. The proposal amounted to \$1,388.29. Work not yet commenced.

Nov. 21, 1933, contract made with Snead & Company, of Boston, for furnishing and erecting steel office partitions. The proposal amounted to \$13,301.50. Work not yet commenced.

Nov. 29, 1933, contract made with F. E. Berry Jr. & Co. Inc., of Boston, for furnishing and installing acoustical treatment on ceilings. The proposal amounted to \$2,400.00. Work not yet commenced.

#### MISCELLANEOUS CONTRACTS

*Boston-Brookline.*—April 18, 1933, contract made with the Bay State Tree Surgery Company, of Lancaster, for furnishing and planting trees on the West Roxbury Parkway. The proposal amounted to \$3,435.88. Work completed May 20, 1933. Expenditure during 1933, \$3,195.70.

*Revere.*—June 14, 1933, contract made with McGunigle & Tounge, Inc., of Boston, for furnishing in place conduits, combinations post boxes and cables on Beach Street, Winthrop Avenue and Ocean Avenue. The proposal amounted to \$2,173.00. Work completed September 5, 1933. Expenditure during 1933, \$2,263.56.

#### TRANSFER OF PORTION OF GASOLINE TAX UNDER PROVISIONS OF CHAPTER 370, ACTS OF 1933

The state treasurer is hereby authorized and directed to transfer the sum of eight million, twenty-eight thousand three hundred and twenty dollars from the Highway Fund to the General Fund.

#### THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW

(Sections 29-33, Chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33 inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within public view of any highway, public park or reservation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

*Applications, Licenses and Permits.*—Licenses were granted to 25 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 342 applications received for permits for the erection of advertising signs, 175 permits have been granted; and 29 permits were granted on applications filed previous to 1933. Sixty-one (61) applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 23 applications for permits were cancelled.

Of 2,888 renewal applications sent to those whose permits were to expire June 30, 1933, 2,617 were returned to the Department requesting renewal; and on account of the advertisers failing to renew, 271 permits were cancelled. The number of renewal applications approved, to be in force until June 30, 1934 was 2,861. The total number of permits in force November 30, 1933, was 2,971.

*Receipts and Expenditures.*—The total receipts for the year ending



November 30, 1933, were \$13,231.92 and the expenditures were \$21,092.36, excess of the expenditures over the receipts being due to printing and extra services rendered in connection with litigation now pending before the Mass. Supreme Court—Suffolk County No. 42843. Eq.

*The Removal of Signs.*—The “sign Patrol” consisting of small trucks completely equipped for the work, have removed 140,000 signs during the year in addition to 10,000 removed by other agents of the Department, under authority of section 30 A, Chapter 93, General Laws, from within the highways and from private property.

*Injunction.*—On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners, constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the Rules and Regulations for the control and restriction of the billboards, signs and other devices, promulgated under date of Jan. 24, 1924. This injunction is still in force and will be until the case is settled in Court.

*Hearings.*—Hearings were given to officials of Brookline, Leominster, Lexington, Stoneham, Winchester.





## CONTRACT PRICES DEC. 1, 1932, TO NOV. 30, 1933

TOWN OR CITY	CONTRACTOR	EXCAVATION			BORROW		Plain Concrete Masonry (Cu. Yd.)	Asphalt (Gal.)
		Earth (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)	Ord. (Cu. Yd.)	Gravel (Cu. Yd.)		
*Amesbury . . .	J. E. Watkins Co. . .	\$0 25	\$1 25	\$0 65	\$0 20	\$0 25	\$14 00	\$0 09
Arlington . . .	A. & P. Construction Co. . .	0 25	1 50	-	-	0 25	-	0 085
*Arlington, Belmont & Cambridge . . .	B. Perini & Sons . . .	0 33	2 00	0 75	0 39	0 71	13 00	0 085
*Ashby & Town- send . . .	G. Rotundi & Son . . .	0 35	1 70	0 80	-	0 40	14 00	0 105
†Barre . . .	R. H. Newell Co. . .	0 30	1 50	0 90	-	0 30	15 00	-
*Boston-Hyde Park Bourne . . .	A. G. Tomasello & Son . . .	0 30	1 00	0 75	0 30	0 60	12 00	0 09
*Brookline & Newton Coleman Bros. . .	Arute Bros., Inc. . .	0 20	2 00	0 40	0 10	0 20	12 00	0 09
*Burlington, Win- chester & Woburn . . .	Coleman Bros. . .	0 22	1 25	1 00	0 22	0 28	13 00	0 08
*Charlton & Oxford Chester . . .	M. McDonough . . .	0 25	1 50	0 75	-	0 40	10 00	0 09
Clinton . . .	Lane Construction Corp. . .	0 60	0 60	2 00	-	0 65	20 00	0 10
*Cohasset & Scitu- ate . . .	National Construction Co. . .	0 75	-	2 00	0 40	0 40	16 00	0 11
Colrain . . .	Menici Construction Co. . .	0 25	3 00	1 00	-	0 35	15 00	0 09
*Conway & Deer- field . . .	C. M. Callahan, Inc. . .	0 20	1 00	0 50	0 20	0 30	12 00	0 08
*East Boston & Re- vere . . .	N. Beacco & Son . . .	0 40	1 30	2 00	0 35	-	10 00	0 14
Eastham . . .	Kelleher Corp. . .	0 75	0 75	1 10	0 20	0 45	15 00	0 10
*Easton & Stoughton Hancock . . .	A. G. Tomasello . . .	0 45	3 00	1 00	0 45	0 85	15 00	0 085
*Huntington . . .	S. W. Lawrence . . .	0 22	-	0 50	0 22	-	15 00	0 12
*Lanesboro & Pitts- field . . .	C. Bianchi & Co. . .	0 35	1 75	0 80	0 35	0 40	18 00	0 115
*Lawrence & North Andover . . .	Kelleher Corp. . .	0 28	0 28	0 75	0 28	0 37	12 00	0 10
*Lynn & Revere . . .	Lane Construction Corp. . .	0 40	0 40	1 25	0 10	0 60	17 00	0 09
*Marshfield & Scit- uate . . .	Lane Construction Corp. . .	0 30	0 30	0 50	0 30	0 40	18 00	0 10
*Mattapoisett . . .	S. Rotundi & Sons . . .	0 30	2 00	0 80	-	0 50	16 00	0 12
Middleboro . . .	Crandall Engineering Co. . .	-	1 00	1 00	0 35	0 75	-	-
*Newbury . . .	Lee Construction Co. . .	0 35	2 00	1 25	0 25	0 42	20 00	0 105
Orange . . .	State Forces . . .	0 45	2 00	0 80	0 35	0 47	14 00	0 11
†Oxford & Webster Pelham . . .	Arute Bros., Inc. . .	0 15	1 00	0 40	-	0 10	10 00	0 079
Pittsfield . . .	E. H. Lewis . . .	0 15	4 00	0 65	-	0 37	10 00	0 10
Pittsfield . . .	E. Barilone Co. . .	0 30	2 00	0 45	-	0 35	10 00	0 12
*Quincy & Wey- mouth . . .	C. & R. Construction Co., Inc. . .	0 30	0 30	0 70	0 30	0 30	10 00	0 08
Rehoboth . . .	Kelleher Corp. . .	0 45	2 50	1 10	0 40	0 50	16 00	0 10
Revere (Secs. 2 & 3) Sherborn . . .	C. B. Lindholm . . .	0 25	0 25	0 60	0 25	0 40	15 00	0 10
Southampton . . .	Lee Construction Co., Inc. . .	0 20	1 50	0 60	-	0 30	-	0 10
*Sterling-West Boylston . . .	Blakeslee & Rollins Corp. . .	0 28	-	0 75	0 60	0 50	10 00	0 09
*Templeton . . .	E. F. Jones . . .	0 15	3 00	0 20	0 30	0 30	12 00	0 09
Wareham . . .	C. & R. Construction Co. . .	0 20	0 01	0 40	0 25	0 48	10 00	0 07
Williamsburg . . .	E. H. Lewis . . .	0 25	4 00	0 30	0 32	0 32	15 00	0 09
Williamstown . . .	D. O'Connell's Sons . . .	0 30	0 38	1 25	0 40	0 65	15 50	-
†Yarmouth . . .	M. Pandolph Co. . .	0 39	5 00	1 25	0 39	0 39	20 00	0 095
	Lane Construction Co. . .	0 50	0 50	1 25	0 25	0 50	16 00	0 09
	S. W. Lawrence . . .	0 28	2 00	0 80	-	0 35	15 00	0 10
	M. Siano & Son . . .	0 29	0 90	-	0 22	0 65	-	0 12
	J. F. Fitz-Gerald . . .	0 25	1 10	0 80	0 22	0 30	12 00	0 10
	S. W. Lawrence . . .	0 10	2 00	0 50	0 10	-	15 00	0 09

¶ (Barre) Later awarded to Town Forces.

† (Mattapoisett) State Force Job on basis of low bid.

‡ Federal Aid Emergency construction projects.

\* N. R. A. projects.

## CONTRACT PRICES DEC. 1, 1932, TO NOV. 30, 1933

Concrete Surface (Cu. Yd.)	Broken Stone (Cu. Yd.)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERTS (lineal feet)								Stock Fence (Lin. Ft.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Reinf. Steel for Struct (Lb.)
			CLAY			REINF. CONCRETE								
			10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.					
-	\$1 20	\$0 42	-	\$0 45	-	\$0 70	-	-	-	\$0 15	\$50 00	\$14 00	\$0 05	
-	1 20	-	-	-	-	-	-	-	-	-	-	-	-	
\$7 73	1 70	-	-	0 60	-	0 95	\$1 50	\$1 70	\$2 65	0 18	47 00	13 25	0 035	
-	2 25	0 45	\$0 40	0 52	-	0 90	1 40	1 80	-	0 20	42 00	17 00	0 05	
-	-	0 40	-	-	-	-	-	-	-	0 15	-	15 00	0 06	
7 75	1 50	-	0 45	0 60	-	-	-	-	-	-	60 00	-	-	
-	2 00	0 35	-	-	-	-	-	-	-	0 12	30 00	-	-	
5 00	1 60	-	0 40	0 50	\$1 00	1 00	-	-	2 50	-	48 00	13 00	0 035	
-	1 30	0 60	-	0 55	1 00	0 85	1 20	1 60	2 80	0 20	50 00	10 00	0 10	
-	2 35	0 45	-	-	0 90	1 00	-	2 00	3 00	0 15	60 00	20 00	0 05	
-	2 00	-	-	-	-	-	-	-	2 75	0 17	-	18 00	0 07	
-	1 80	0 45	-	-	-	0 75	-	-	-	-	45 00	-	-	
-	1 50	0 40	-	0 40	-	0 75	1 00	1 25	1 75	0 15	35 00	15 00	0 03	
-	-	0 40	-	-	-	-	-	-	-	-	35 00	12 00	0 03	
-	1 65	0 40	0 40	0 50	0 90	0 90	1 25	1 70	2 50	0 15	55 00	17 00	0 045	
7 25	1 00	-	0 40	0 55	0 90	0 85	1 15	1 50	2 30	0 15	50 00	11 00	0 035	
-	-	0 50	-	-	-	0 90	-	-	-	0 16	50 00	-	-	
7 15	2 00	0 50	0 50	0 55	-	1 05	1 50	2 00	-	-	60 00	18 00	0 05	
-	2 25	0 35	-	-	-	-	-	-	-	0 15	-	14 50	0 04	
-	1 50	0 40	-	-	-	0 75	-	1 30	2 00	0 15	-	17 00	0 04	
6 25	2 25	0 45	-	0 60	-	0 85	-	1 50	3 00	-	55 00	18 00	0 05	
7 50	2 00	0 50	0 50	0 60	-	-	1 60	-	-	0 20	50 00	See	-	
-	-	-	0 50	0 70	-	-	-	-	-	-	50 00	Bridge	0 04	
-	1 85	0 45	0 45	0 55	0 90	1 00	-	-	-	0 16	50 00	15 00	0 05	
-	2 00	0 40	0 40	0 50	0 90	0 90	-	1 60	-	0 15	45 00	16 00	0 05	
-	2 00	0 05	-	0 35	-	0 60	-	1 50	-	0 15	30 00	-	-	
-	1 50	0 30	0 50	0 60	0 90	0 85	1 50	1 70	2 50	0 13	40 00	15 00	0 05	
-	2 00	-	0 40	0 50	1 50	-	-	-	3 50	-	40 00	12 00	0 04	
-	1 95	0 40	-	0 35	-	0 65	-	1 15	-	0 14	35 00	12 00	0 03	
-	1 60	0 45	-	0 55	-	-	-	-	-	0 15	-	16 00	0 06	
-	1 90	0 45	-	0 60	0 90	0 70	-	1 50	2 00	-	40 00	20 00	0 10	
6 10	2 50	0 40	-	0 40	-	0 80	-	-	-	0 14	35 00	10 20	0 029	
-	1 80	-	-	-	-	-	-	-	-	-	-	15 00	0 04	
-	1 50	-	-	-	-	-	-	-	-	-	-	-	-	
6 00	1 35	-	0 28	0 35	-	0 60	0 70	1 15	1 80	0 14	-	-	-	
-	1 00	0 30	0 40	0 50	-	0 70	-	-	3 00	-	30 00	11 00	0 03	
-	2 00	0 40	-	-	-	-	-	-	-	-	50 00	15 00	0 03	
-	-	-	-	-	-	-	-	-	-	0 20	-	20 00	0 035	
7 17	1 60	0 40	0 45	0 55	1 00	0 90	1 30	1 75	3 00	0 16	60 00	19 00	0 035	
-	2 10	0 40	-	0 60	-	0 95	1 40	-	2 75	0 15	60 00	17 00	0 04	
-	2 20	0 45	-	0 60	-	0 80	1 00	1 50	-	0 18	50 00	-	-	
-	2 00	0 40	-	-	-	-	-	-	-	-	-	11 80	0 0296	
-	2 25	0 40	-	0 60	-	1 10	-	1 60	2 50	0 15	40 00	10 60	0 03	
-	3 00	0 40	-	0 50	-	0 80	-	-	3 00	0 14	40 00	15 00	0 04	



## CONTRACT PRICES DEC. 1, 1932, TO NOV. 30, 1933

TOWN OR CITY	CONTRACTOR	EXCAVATION		Struct. Steel Lb.	Reinf. Steel For Struct. Lb.
		Bridge Cu. Yd.	Channel Cu. Yd.		
*Arlington-Belmont- Cambridge . . . . .	B. Perini & Son . . . . .	\$1 00	—	\$0 035	\$0 035
Ayer . . . . .	Eng. Service & Const. Co. . . . .	1 00	—	—	0 05
†Barre . . . . .	R. H. Newell Co. . . . .	2 00	\$0 90	0 045	0 06
*Brookline-Newton . . . . .	Coleman Bros. Inc. . . . .	4 00	—	—	0 035
‡Cohasset-Scituate . . . . .	C. M. Callahan Inc. . . . .	1 00	2 00	—	0 03
Colrain . . . . .	N. Beacco & Sons . . . . .	1 00	0 50	0 025	0 03
*Conway-Deerfield . . . . .	Kelleher Corp. . . . .	2 00	1 00	—	0 045
*E. Boston-Revere . . . . .	A. Barruffaldi . . . . .	1 50	—	—	0 0325
Easton . . . . .	Arute Bros. Inc. . . . .	2 75	1 25	—	0 05
Gt. Barrington . . . . .	Roy W. Wright . . . . .	1 50	—	—	0 032
Hancock . . . . .	Kelleher Corp. . . . .	50	50	—	0 04
Hopkinton-Southboro . . . . .	N. F. Smith & Co. . . . .	1 00	0 40	—	0 02
		Lump			
*Lynn-Revere . . . . .	Crandall Eng. Co. . . . .	Sum	—	0 05	0 04
*Marshfield-Scituate . . . . .	Lee Constr. Co. . . . .	1 00	—	0 0455	0 034
‡Oxford-Webster . . . . .	C. & R. Const. Co. . . . .	30	3 00	0 041	0 03
Pittsfield . . . . .	Lee Constr. Co. . . . .	1 00	—	0 028	0 029
*Quincy-Weymouth . . . . .	Blakeslee Rollins Corp. . . . .	5 00	—	0 07	0 04
Revere (Secs. 2 and 3) . . . . .	C. & R. Const. Co. . . . .	20	—	0 038	0 03
Southampton . . . . .	D. O'Connells' Sons . . . . .	38	—	—	0 035
*Sterling-W. Boylston . . . . .	M. Pandolph Co. . . . .	—	5 00	—	0 035
*Templeton . . . . .	Lane Const. Co. . . . .	4 00	—	—	0 04
Williamsburg . . . . .	M. Siano & Son . . . . .	80	50	—	0 0296
Williamstown . . . . .	J. F. Fitzgerald . . . . .	1 50	1 00	—	0 03
‡Yarmouth . . . . .	S. W. Lawrence . . . . .	2 00	—	—	0 04

Pile foot note (Lynn & Revere) price given is average price of different length piles.

\*Indicates NRA Projects.

†(Barre) Later awarded to Town forces.

‡Federal Aid Emergency Construction Projects.

CONTRACT PRICES DEC. 1, 1932, TO NOV. 30, 1933

CONCRETE (Cu. Yd.)					Rip Rap cu. yd.	Bit. Conc. "D" ton	Bit. Water Pr'f'g S.Y.	Zinc Plates lb.	Lum- ber Sht'g MFBM	WOOD PILES			Conc. Piles Lin. ft.	Test Piles Each
REINFORCED	PLAIN	RUBBLE		Y.P. (Per						Spr'ce Lin.	Oak Ft.)			
1:2:3½	1:2:4	1:2½:5	1:2:4	1:2½:5										
\$13 25	-	\$13 00	\$9 50	\$9 25	\$2 50	-	\$0 25	-	\$60 00	-	\$1 60	-	-	-
-	-	-	9 00	-	-	-	-	-	-	-	-	-	-	-
-	\$15 00	15 00	9 00	-	1 50	-	-	-	-	-	-	-	-	-
-	13 00	13 00	-	10 00	-	\$6 00	0 25	-	-	-	-	-	-	-
-	15 00	12 00	-	-	2 00	-	-	-	-	-	-	-	-	-
-	12 00	10 00	10 00	-	-	-	-	-	40 00	-	-	-	-	-
-	17 00	15 00	12 00	-	2 00	-	0 50	-	60 00	-	-	-	-	-
11 00	-	-	-	7 50	-	6 00	0 25	-	40 00	\$0 35	-	-	\$2 25	\$75 00
-	10 00	-	8 30	-	-	-	-	-	70 00	1 00	-	-	-	-
-	14 50	-	7 25	-	-	-	0 50	\$0 16	0 01	-	-	-	-	-
-	14 50	12 00	-	-	-	-	-	-	-	-	-	-	-	-
-	12 35	-	8 98	-	2 00	-	0 40	0 05	150 00	-	-	-	-	-
(Concretes Priced by Elevation)					3 00	-	0 25	-	-	-	0 34	{ See Pile Foot Note	-	50 00
14 00	-	-	-	-	-	6 00	0 25	0 15	-	0 70	{ Creos- soted		-	-
-	12 00	10 00	6 80	-	2 00	-	-	-	10 00	-		-	-	-
-	10 20	-	8 00	-	-	-	-	0 16	0 01	-	-	-	-	-
15 00	-	10 00	20 00	-	-	-	-	-	-	-	\$0 33	\$0 47	-	50 00
-	11 00	10 00	6 00	-	1 50	4 00	-	-	10 00	-	-	-	-	-
-	20 00	15 50	-	-	2 25	-	-	0 17	-	-	-	-	4 50	100 00
-	19 00	20 00	18 00	-	-	-	0 50	-	100 00	-	-	-	-	-
-	17 00	16 00	13 00	-	-	-	0 50	-	50 00	-	-	-	-	-
-	11 80	-	9 40	-	1 35	8 36	0 25	0 15	-	-	-	-	-	-
-	10 60	12 00	10 32	-	2 00	10 00	0 30	-	65 00	-	-	0 70	-	75 00
-	15 00	15 00	-	-	2 00	pr ton	-	-	60 00	0 50	-	-	-	-



## REGISTRY OF MOTOR VEHICLES

The statistics for the year 1933 continue to show slight decreases in some of the classes of applications handled, but there was a nominal increase in the registration applications.

The demands on the Registry for information from records and data from the files is increasing steadily. There was a salutary decrease in the number of insurance cancellations. The decrease in court abstracts received has continued again this year, with the revenue received from fines also taking another substantial drop.

The regular activities of the Registrar of Motor Vehicles continued during the year in matters of highway safety, including the special attention over Saturday and Sunday week ends and holiday periods. The co-operation of the various safety committees and organizations, police and other officials having to do with highway safety, was helpful.

The removal of the Registry from its quarters at Commonwealth Pier 5 to its offices in the new building of the Department of Public Works at 100 Nashua Street took place in July, 1933. Advantage was taken of the July 4th holiday and the move, which commenced at 12 o'clock noon, Saturday, July 1st, was completed on the 5th, when full service was rendered to the public at the new quarters, beginning at the usual hour, 9 o'clock. On Monday limited but adequate service to the public was rendered at Commonwealth Pier. The move was completed without loss or serious disarrangement of any of the millions of records, applications, folders, cards and data in the Registry files, to say nothing of the thousands of dollars of equipment, both in the way of office furniture and office machinery, none of which suffered serious damage in any respect. The Registry moved into and now occupies the first three floors of this new building and approximately one-half of the basement for storage of supplies, number plates, etc. Experience in the new quarters has indicated that the layout was well planned and efficient and will be adequate for many years to come.

A few of the outstanding figures for the year, together with a comparison with the previous year, follow:—

	1932	1933
Motor Vehicle certificates of registration issued . . . . .	923,570	931,516
Compulsory insurance cancellation notices received . . . . .	130,328	101,175
Licenses to operate issued . . . . .	1,014,635	1,022,662
Examinations of applicants for licenses . . . . .	81,036	74,988
Licenses and registrations revoked and suspended . . . . .	73,511	78,431
Licenses revoked for driving under influence of liquor . . . . .	4,824	4,274
Total number of applications handled . . . . .	2,018,238	2,024,792
Gross receipts from fees . . . . .	\$6,142,129.98	\$6,035,102.27

### REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a 1.31% increase in passenger registrations, a 1.81% decrease in commercial registrations, and motor cycle registrations showed a decrease of approximately 38% over the previous year.

	1905	1915	1925	1929*	1932	1933
Passenger cars . . . . .	4,889	90,580	663,858	905,636	809,358	819,987
Commercial vehicles . . . . .	—	12,053	100,480	113,268	112,551	110,506
Motorcycles . . . . .	553	9,520	10,333	6,168	1,661	1,023
Totals . . . . .	5,442	112,153	774,671	1,025,072	923,570	931,516

\*Peak year.

## EXAMINATIONS FOR LICENSES

The system of examining prospective operators of motor vehicles was not changed in any respect during the year 1933, the appointment system being continued and the examination consisting of the usual demonstration on the highways, a reading test, an eye test, and a test of the applicant as to his knowledge of the motor vehicle law. The number of persons examined has continued to decrease at the fifty-five examining points with the following results:—

	1932	1933
Operators passed . . . . .	68,328	66,547
Operators unfit . . . . .	8,735	6,966
Restriction removal, passed . . . . .	3,873	2,371
Restriction removal, unfit . . . . .	444	261
"Competency" passed . . . . .	560	330
"Competency" unfit . . . . .	29	21
Total examinations . . . . .	81,969	76,496

## BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles are able to render practically the same service to the public that is rendered at the main office at Boston, except as to information from the records. Each branch office serves as a headquarters for the district in which it is located, both as to distribution of number plates and licenses, and law enforcement.

The following table gives approximate figures showing the distribution of applications received at the branch offices and at the central office at Boston:—

## APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Totals
Boston:					
Counter . . . . .	205,000	—	167,000	76,000	448,000
Mail . . . . .	151,000	—	410,000	11,000	572,000
Examination . . . . .	—	20,000	—	4,000	24,000
Pittsfield . . . . .	22,000	2,000	19,000	5,500	48,500
Springfield . . . . .	55,000	6,000	54,000	15,000	130,000
Greenfield . . . . .	11,000	1,000	9,000	3,000	24,000
Northampton . . . . .	12,000	1,000	9,000	3,500	25,500
Worcester . . . . .	51,000	6,000	46,000	15,000	118,000
Fitchburg . . . . .	18,000	1,500	15,000	5,000	40,500
Framingham . . . . .	23,000	2,000	13,000	6,000	43,000
Lawrence . . . . .	31,000	4,000	29,000	8,000	72,000
Lowell . . . . .	25,000	3,000	22,000	6,000	56,000
Fall River . . . . .	21,000	3,500	21,000	6,500	52,000
New Bedford . . . . .	21,000	2,000	25,000	7,000	55,000
Lynn . . . . .	56,000	6,500	47,000	16,000	125,500
Quincy . . . . .	32,000	5,500	33,000	9,000	79,500
Brockton . . . . .	38,000	3,000	32,000	12,000	85,000
Hyannis . . . . .	9,000	1,500	7,000	2,500	20,000
Nantucket <sup>1</sup> . . . . .	1,500	—	—	—	1,500
Oak Bluffs <sup>1</sup> . . . . .	2,500	—	—	—	2,500
Totals . . . . .	785,000 <sup>3</sup>	68,500	958,000	211,000 <sup>2</sup>	2,022,500

During the year the branch offices at Pittsfield, Fall River and Lawrence, upon the expiration of their leases, were moved,—the two former to new and better locations and quarters, while the latter transferred to

<sup>1</sup> Licenses and miscellaneous applications included in counter figures.

<sup>2</sup> This figure includes approximately 140,000 number plate reissues.

<sup>3</sup> Does not include reissues (see Miscellaneous).



new quarters in the same building. In each instance, the contract for the new lease provided for a reduced rental. Negotiations for the removal of the Brockton office are under way and when this change is effected it is believed that the locations and quarters of all the branches will be well adapted to the requirements of the public.

#### COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures show the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance:

	1932	1933
Causes for Cancellation of Policies:		
For non-payment of premiums . . . . .	112,994	70,564
For other reasons . . . . .	17,334	30,611
Total . . . . .	130,328	101,175
Origin of requests for Cancellation of Policies:		
Insurance companies . . . . .	93,000	97,877
Finance companies . . . . .	37,328	3,298
	130,328	101,175
Disposition of applications for cancellations:		
Replacement certificates, adjusting cancellations . . . . .		8,194
Reinstatements, adjusting cancellations . . . . .		45,000
Sets of plates returned before effective date of cancellation . . . . .		13,000
Revocations . . . . .		34,981
Total . . . . .		101,175
Return of Plates:		
Returned promptly after revocation . . . . .		22,048
By Police . . . . .		5,955
By Inspectors of Registry . . . . .		3,173
Not returned . . . . .		3,805
Total revocations . . . . .		34,981

The decrease in total number of cancellation notices received was probably due to the fact that the finance companies in exercising their powers of attorney caused more general current payments of premiums. Under ideal conditions the only cancellations which should be necessary for this Department to handle should be the so-called "For Cause" cancellations.

#### PROPERTY DAMAGE

Under the provisions of Section 22A of Chapter 90, General Laws, which became effective September, 1932, the Registrar may, upon receipt of evidence satisfactory to him, suspend the license of any operator who has failed to satisfy a judgment rendered against him after sixty days in any case in which such operator is the defendant in an action brought to recover damages for injuries to property arising out of the use, operation or maintenance on the ways of the Commonwealth of a motor vehicle or trailer.

The following figures indicate the number of cases in which successful plaintiffs availed themselves of the additional facilities provided in the new law for recovering damages and the action taken thereon.

Complaints received . . . . .	344
Releases received, no action being necessary . . . . .	81
Licenses or rights to operate suspended . . . . .	263
Licenses or right to operate reinstated after suspension . . . . .	59

AIRCRAFT

The statistics of the Aviation Section show a decrease in the number of licensed pilots and airplanes.

Although the total number of pilots flying in the State is less, it is very encouraging to note that there has been a greater decrease in the percentage of accidents, which, no doubt, is partly the result of the two new regulations, — one, the raising of the age limit to obtain a pilot's license to 18 years and the other, the prohibiting from carrying passengers of pilots who have less than 50 hours of solo flying to their credit.

A very strict periodic supervision has been made of the operations at all airports. The active flying fields have been resurveyed by our engineers who have brought the blue prints up to date. A program for air-marking of towns which is well under way is meeting with fair success. Co-operation with the Federal Government in aviation activities has been continued.

The following figures summarize the work of the Aviation Section.

	1932	1933	
Pilot's licenses issued . . . . .	17	21	
Airplanes registered . . . . .	37	27	
Duplicates issued . . . . .	4	4	
Fees received . . . . .	\$555	\$492	
Pilots' permits issued . . . . .	476	336	
Aircraft permits issued . . . . .	323	231	
Pilots examined by flight tests . . . . .	11	10	
Airplanes inspected . . . . .	470	269	
Suspensions of licenses and rights to fly . . . . .	34	27	
Airplanes grounded . . . . .	149	71	
Reinstatements of licenses, rights and groundings . . . . .	119	66	
Court prosecutions . . . . .	5	2	
Rulings promulgated . . . . .	1	2	
Airports approved . . . . .	1	1	
Airports disapproved . . . . .	2	1	
Surveys of fields . . . . .	15	84	
Investigations made by aircraft inspectors . . . . .	821	896	
Airplane accidents . . . . .	86	53	
	1932	1933	
Fatals . . . . .	8	6	
Non fatals . . . . .	21	9	
No injury . . . . .	57	38	
Persons killed . . . . .	11	10	
Persons injured . . . . .	38	15	
Ground accidents . . . . .		13	5
	1932	1933	
Non fatals . . . . .	3	1	
No injury . . . . .	10	4	
Persons injured . . . . .	3	1	

INSPECTION OF MOTOR VEHICLE EQUIPMENT

The fourth periodic inspection of the safety equipment of all motor vehicles registered in the commonwealth was held during the year. The work was carried on by a permanent organization of Official Inspection Stations designated by the Registrar. Most of these stations have been functioning for a period of four years and performed the work honestly and efficiently.

The results of the inspections confirmed the conclusions reached by former experience: that one inspection per year cannot be expected to secure the desired results. When business and other conditions warrant, it is to be hoped that two inspections per year can be conducted.



During the year approximately 790,000 cars were inspected. The result may be summarized as follows:

Total number of cars inspected . . . . .	790,000
Total O. K. without repair or adjustment . . . . .	316,000—40%
Total requiring replacement or adjustment . . . . .	474,000—60%

Repairs or adjustments on the 474,000 vehicles requiring correction of defects in equipment were as follows:

Brakes . . . . .	213,300—27%
Lights . . . . .	410,000—52%
Horn . . . . .	13,430— 2%
Muffler . . . . .	7,110— 1%
Steering Gear . . . . .	13,200— 2%
Windshield Cleaner . . . . .	15,000— 2%
Number Plates . . . . .	4,187—0.5%

### *School Bus Inspections*

All the school buses operated in Massachusetts under contracts with cities or towns, or owned by cities or towns, were examined by inspectors of this department five times during the year as required by Chapter 271 of the Acts of 1932. These inspections were held during the first weeks of January, March, May, September and November. In each case, about eight hundred vehicles were inspected at 70 designated examining points. Because of the provisions of the law, complete compliance with its equipment requirements cannot be insisted upon until the termination of all transportation contracts existing on August 26, 1932. In general, however, school bus equipment has improved considerably since the first inspection held in October 1932, and many new buses have been put in operation to take the place of vehicles which failed to meet the requirements of the Act.

### *Brakes, Lights, and Overloads*

Eighteen men were regularly assigned to equipment work. Besides their duties in connection with the periodic inspections of motor vehicles and school buses, these men did considerable road work in enforcing equipment requirements. 1,732 vehicles were reported for defective brakes; 22,299 for defective lights. 1,092 registrations were suspended or revoked because of dangerously defective equipment. In addition 339 owners were sent warning notices because of overloading and 15 registrations were revoked for this cause. Equipment inspectors also reported 2,553 cases of improper operation for action by the Registrar and 1,380 cases of violation of laws and regulations regarding equipment, dimensions of vehicles, etc.

### *Headlamps and Rear Lamps*

The Registrar approved four new headlamps and granted several extensions of approval during the year. Three of the new approvals were of the three beam type having a "clear road" beam, a "meeting" beam and a "city" beam,—each of the three beams being accomplished by different combinations of use of the two bulbs in the pair of headlamps. The fourth headlamp approved has six beams and is magnetically operated; but that does not necessarily indicate a tendency towards greater complications. In fact, such is not desirable, the simple systems being more satisfactory. Seven new tail lamps were approved during the year.

### **MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS**

Deaths caused by motor vehicles in 1933 numbered 769, an increase of one or 0.1 per cent as compared with the record of the previous year. The record of classified fatalities, injuries and collisions in the years 1932 and 1933 is as follows:—

*Motor Vehicle Accidents to Persons*

	Persons Killed		Persons Injured	
	1932	1933	1932	1933
Pedestrians by autos . . . . .	426	425	15,793	15,180
Pedestrians by motor cycles . . . . .	2	0	26	26
Pedestrians near street cars . . . . .	11	8	24	35
Occupants of autos . . . . .	277	277	30,186	31,325
Occupants of autos at R. R. crossings . . . . .	16	17	24	18
Occupants of motor cycles . . . . .	9	9	240	184
Bicycle Riders . . . . .	12	17	848	920
Occupants horse-drawn vehicles . . . . .	5	6	279	193
Coasters on sleds . . . . .	8	6	148	235
Coasters on wheels . . . . .	2	4	90	133
Totals	768	769	47,658	48,249

	Children Killed		Children Injured	
	1932	1933	1932	1933
Boys . . . . .	112	115	7,441	7,062
Girls . . . . .	34	39	4,136	3,599
Totals . . . . .	146	154	11,577	10,661

*Number of Collisions*

	1932	1933
Collision with pedestrian . . . . .	15,672	14,998
Collision with automobile . . . . .	20,168	20,027
Collision with horse-drawn vehicle . . . . .	300	256
Collision with railroad train . . . . .	23	15
Collision with street car . . . . .	297	339
Collision with fixed object . . . . .	1,887	2,268
Collision with bicycle . . . . .	873	927
Non-Collision (overturn) . . . . .	714	726
Collision with motor cycle . . . . .	303	238
Collision with sled . . . . .	120	205
Collision with animal . . . . .	101	86
Coaster on wheels . . . . .	82	131
Totals . . . . .	40,640	40,216
In the daytime . . . . .	25,394	24,561
After dark . . . . .	15,246	15,655
Totals . . . . .	40,640	40,216

*ACCIDENT REPORT LETTERS*

As provided by section 26, chapter 90, General Laws every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received from operators in 1933 was 44,869 as compared with 48,864 received in 1932. Under the requirements of section 29, chapter 90, General Laws, 18,991 similar reports of accidents were received from Police Departments throughout the State in 1933 as against 19,859 received in 1932. In addition, in connection with this reporting of accidents by operators during the fiscal year 1932 there were received 14,769 letters and complaints reporting faulty operating. During the year 1933, these letters and complaints numbered 12,318.



COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS,  
INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor-Cycles Registered	Total Regis- trations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Sus- pensions and Revo- cations	For Operat- ing Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824
1933	930,493	1,023	931,516	769	48,249	1,022,662	78,431	4,274

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, violations of the laws concerning brakes and headlights, inspection of garages, miscellaneous complaints, and the prosecution of motorists in court. The table below shows the wide range of these activities of the inspectors, and reveals an increase in the total number of cases handled.

Classification of Reports

	1932	1933
Accidents, fatal . . . . .	748	729
Accidents, non-fatal . . . . .	5,816	5,457
General Reputation . . . . .	5,943	6,933
Miscellaneous . . . . .	11,764	12,437
Totals . . . . .	24,271	25,556
Complaints filed . . . . .	14,976	12,537
Garages . . . . .	5,471	8,964
Headlights . . . . .	21,036	24,031
Prosecutions . . . . .	752	655
Amount of fines . . . . .	\$26,175.	\$21,263.

REVOCATIONS AND SUSPENSIONS

	1932	1933
Licenses suspended . . . . .	15,315	10,551
Licenses revoked . . . . .	3,466	2,996
Rights suspended . . . . .	4,651	4,402
Certificates suspended . . . . .	0	1,127
Certificates revoked . . . . .	48,417	57,802
Certificates and licenses suspended . . . . .	22	17
Certificates and licenses revoked . . . . .	1,435	1,359
Certificates revoked and rights suspended . . . . .	123	107
Rights in Massachusetts suspended . . . . .	82	70
Totals . . . . .	73,511	78,431
Resulting from investigations . . . . .	17,411	12,577
Resulting from Court convictions . . . . .	8,196	7,603
Resulting from Police complaints . . . . .	1,411	1,401
Resulting from Judges' complaints . . . . .	21	25

P. D. 54		81
Resulting from State Police complaints . . .	210	104
Resulting from Insurance cancellations . . .	46,262	56,721
Totals . . . . .	73,511	78,431

*Character of Offenses*

Reckless and endangering . . . . .	1,845	1,572
Liquor convictions . . . . .	3,899	3,601
Going away after accidents . . . . .	335	332
Without authority . . . . .	831	726
Racing . . . . .	0	2
Improper person . . . . .	5,562	5,059
Improper person, liquor . . . . .	925	673
Two overspeeds . . . . .	34	58
Three overspeeds . . . . .	4	9
Improper operation . . . . .	9,436	6,874
Insurance cancellations . . . . .	46,262	56,721
Insurance convictions . . . . .	375	387
Improper equipment, miscellaneous . . . . .	138	208
Improper equipment, lights . . . . .	166	334
Improper equipment, brakes . . . . .	415	369
Failure to have stickers . . . . .	2,157	181
Fatal accidents . . . . .	728	734
Other offenses . . . . .	399	362
Property Damage cases . . . . .	0	229
Totals . . . . .	73,511	78,431

Formal hearings . . . . .	7,188	7,103
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Court recommendations adopted:—

Reckless and endangering . . . . .	33	30
Going away after accidents . . . . .	6	5
Without authority . . . . .	2	0
Allowing improper person to operate . . . . .	1	0
Totals . . . . .	42	35

Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned . . . . .	3,805	3,725
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ANALYSIS OF COURT ABSTRACTS RECEIVED

	1932	1933
Number of courts forwarding abstracts . . . . .	95	95
Total abstracts received . . . . .	51,329	46,381
Number of abstracts recording convictions . . . . .	36,149	31,791

*Offenses*

(Analysis of convictions, not including appeals)

Overspeeding . . . . .	11,366	9,453
Reckless . . . . .	14	10
Operating under influence of liquor . . . . .	3,486	3,334
Using auto without authority . . . . .	1,194	925
Endangering lives . . . . .	2,253	1,642
Not stopping after causing injury . . . . .	591	571
Without license . . . . .	2,985	2,600
Without registration certificate . . . . .	802	704
Unregistered vehicle . . . . .	395	386
Improper display or no register number . . . . .	178	155
Refusing to stop on signal . . . . .	298	431



Unlighted lamps . . . . .	500	444
Not signalling . . . . .	0	1
Operating within 8 feet of street car . . . . .	112	115
Violation of Metropolitan Park Rules . . . . .	442	169
Operating after suspension or revocation of license	558	559
Larceny . . . . .	115	129
Manslaughter . . . . .	1	1
Miscellaneous . . . . .	2,007	1,512
Lenses not approved . . . . .	0	1
No reflector . . . . .	0	7
Racing . . . . .	1	4
Operating after registration certificate revoked . . . . .	22	11
No rear light . . . . .	36	45
Not displaying lights . . . . .	0	31
Passing red light . . . . .	130	522
Improper lights . . . . .	356	212
Brakes not as required by law . . . . .	237	226
Violation of Insurance Law . . . . .	416	447
Not slowing down approaching pedestrian . . . . .	60	19
Not slowing down at intersecting way . . . . .	5,191	5,015
Violation of law of road . . . . .	2,312	1,986
Perjury—Making false statements on license appli- cation, falsely impersonating or conspiring to obtain a license . . . . .	17	18
Loaning a license to another . . . . .	8	13
Allowing intoxicated person to operate . . . . .	5	6
Attempted larceny . . . . .	61	34
Allowing improper person to operate . . . . .	0	53
Totals . . . . .	36,149	31,791

## USED CAR SECTION

## (Motor Vehicle Identification)

The following is a resume of the work accomplished by the Used Car Section which indexes, under engine numbers, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen-vehicle records. Dealers' and repairmen's plates and registration certificates are issued by this section.

The work of the section is summarized in the following tables:—

<i>Dealers</i>	1932	1933
Total number of first class dealers reporting . . . . .	1,240	1,135
Total number of second and third class dealers reporting . . . . .	468	519
Total number making reports to this office . . . . .	1,708	1,654

*Reports*

Approximate number of notices of intended sales received daily . . . . .	243	280
Approximate number of dealers' reports received daily . . . . .	823	878

*Motor Vehicles Stolen*

Number stolen in Boston . . . . .	4,901	5,108
Number stolen in Massachusetts (including Bos- ton) . . . . .	6,211	9,743
Number reported stolen from various sources throughout the country, including Massachusetts	23,902	25,505
Number of motor Vehicles recovered through in- formation furnished by this office . . . . .	423	368

*Engine and Serial Numbers*

Engine numbers assigned to cars . . . . .	12	15
Certificates issued authorizing the replacement of engine numbers . . . . .	456	370
Certificates issued authorizing the replacement of serial numbers . . . . .	648	470
Certificates issued authorizing the replacement of both engine and serial numbers . . . . .	19	15
Total number of authorization certificates issued . . . . .	1,123	855

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Two meetings of the Motor Vehicle Administrators were held in 1933, one, the Eastern Conference of Motor Vehicle Administrators, in Detroit, Michigan, on June 27, 28 and 29, and the other in Chicago, Illinois, at which time no representative of this Department attended either meeting on account of economic reasons. The American Conference of Motor Vehicle Administrators was organized at the Chicago Conference on September 29 and 30, and the Eastern Conference is now a division of it.

ANALYSIS OF RECEIPTS

The fees received for the year 1933, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:

Certificates of Registration:			
Passenger cars including taxicabs). . . . .	816,302	\$2,428,075 95	
Commercial cars . . . . .	110,506	1,188,656 10	
Buses . . . . .	3,685	89,089 65	
Trailers . . . . .	525	30,741 50	
Motor cycles . . . . .	1,023	1,394 00	
Manufacturers or Dealers (including repairers)	2,753	8,259 00	
Manufacturers or Dealers additional cars (including repairers) . . . . .	17,997	53,991 00	
Licenses to operate:			
Original licenses . . . . .	66,952 at \$2.00	133,894 00	
Renewal licenses . . . . .	955,710 at 2.00	1,991,223 50	
Examinations . . . . .	60,650 at 2.00	\$121,300	
Re-examinations . . . . .	14,338 at 1.00	14,338	
Total examinations . . . . .	74,988	135,638.00	
Copies of certificates and licenses furnished . . . . .			
Duplicate number plates furnished . . . . .	32,615 at \$1.00	32,615 00	
Lens approval applications . . . . .	8,685 at 1.00	8,685 00	
Miscellaneous receipts, process fees, etc. . . . .	3 at 50.00	150 00	
Total amount of fees . . . . .		\$6,035,102 27	
Motor Vehicle fees rebated (deducted) . . . . .		61,866 57	
Net fees . . . . .		\$5,973,235 70	
Court fines received by the Treasurer and Receiver-General . . . . .		333,241 32	
Total receipts (not including gasoline tax*) credited Highway Fund account, 1933 . . . . .		\$6,306,477 02	

\*Receipts from gasoline tax are credited to the Highway Fund but are collected through agencies other than the Registry.



## EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1933 was \$1,434,382.44, which was 24% of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$4,872,094.58 available for legislative appropriation for highway work.

## ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1933

<i>Payrolls</i>		
Personal Services:		
Regular payroll . . . . .	\$899,054 11	
Overtime payroll . . . . .	7,845 75	
	<hr/>	\$906,899 86
<i>Expenses</i>		
Supplies:		
Books, maps, etc. . . . .	\$820 99	
Typewriter supplies . . . . .	1,458 56	
Adding machine repairs and supplies . . . . .	109 41	
Other supplies . . . . .	2,607 25	
Stationery . . . . .	20,844 12	
Typewriter repairs . . . . .	118 66	
Other repairs . . . . .	652 11	
	<hr/>	\$26,611 10
Equipment and Furniture:		
Typewriter machines . . . . .	\$3,233 55	
Other machines . . . . .	2,293 65	
Desks . . . . .	579 97	
Bookcases, tables, etc. . . . .	1,146 49	
Filing cabinets . . . . .	13,529 82	
Chairs . . . . .	533 29	
Dictograph . . . . .	347 57	
Branches—Safe . . . . .	209 10	
Headlight and Brake Testing Expense . . . . .	19 00	
Uniforms . . . . .	4,609.05	
	<hr/>	\$26,501 49
Traveling Expenses:		
Officials . . . . .	\$2,088.51	
Employees . . . . .	22,796 43	
Aviation . . . . .	2,763 97	
Automobiles (owned by employees) . . . . .	72,886 52	
Automobiles (owned by State):		
Maintenance of 11 automobiles . . . . .	3,014 38	
Exchange of 3 automobiles . . . . .	1,103 19	
Purchase of 1 automobile . . . . .	483 87	
	<hr/>	\$105,136 87
Other Services and Expenses:		
Expressage . . . . .	2,973 09	
Postage . . . . .	92,019 16	
Printing:		
Other reports . . . . .	38 27	
Other printing . . . . .	8,066 00	
Telephone . . . . .	7,854 87	
Premium on Bonds of Employees . . . . .	391 21	
Rent . . . . .	11,500 00	
Cleaning and Janitor Services . . . . .	929 90	
Rat Extermination . . . . .	105 34	
Labor . . . . .	326 70	
Number Plates . . . . .	178,729 10	
Direct Mail Lists . . . . .	9,500 00	
Sundries . . . . .	238 86	

Towels and Soap . . . . .	578 39	
Water and Ice . . . . .	581 60	
Expenses incurred by moving to new building:		
New Equipment . . . . .	11,567 02	
Labor . . . . .	5,993 45	
Branch Offices:		
Rent, Telephone, Lighting, Heating . . . . .	27,488 27	
Labor and Services . . . . .	7,506 11	
Supplies and Express . . . . .	2,404 59	
		\$368,791 93
<i>Publicity for Safety Work</i>		
Labels . . . . .	\$441 19	
		\$441 19
		\$1,434,382 44
<i>Summary</i>		
Payrolls . . . . .		\$906,899 86
Expenses . . . . .		527,041 39
Publicity for Safety Work . . . . .		441 19
		\$1,434,382 44

## RELATING TO WATERWAYS AND PUBLIC LANDS BOSTON HARBOR

### The Commonwealth Flats at South Boston

#### *Commonwealth Pier 5*

Work necessary to maintain the pier in condition for effective operation has been carried on as usual during the year. Repairs have been made to gangways, to fender logs and fittings, to roofing, flashing, downspouts and sash, to elevators and elevator machinery, to the sprinkler system and to the heating plant.

On June 6, 1933, a contract was made with A. A. Hersey and Son Company for furnishing, driving, fitting and securing new fender piles and new foundation piles, rebolting piles and belay posts, furnishing and securing new bracing, securing existing loose bracing, and other necessary timber work in the pile platform of the pier. This work is now in progress.

Early in the year requests were made for the cutting of an additional door on the second floor at the outer end of the pier to facilitate the embarking and disembarking of passengers from steamships using the outer berths when the inner berth is occupied. This door was provided for in a letter contract made June 20, with J. Edward Ogden Company for cutting out siding and framing a new door opening, removing a two section door and erecting it in the new opening, and for furnishing and installing a new three-section door in place of the two-section one, on the east side of the second floor of the pier at a contract price of \$1,818. This work was completed Oct. 5, 1933.

After the movable gangway, built last year at the outer end of the pier, had been in operation for some months, it became evident that the widening of the lower run would allow freer movement of the short gangway extending from the movable gangway to the ship docking at the pier. For this widening and for certain changes in the open observatory where the movable gangway meets the second floor of the pier, the two following contracts were made.

On Sept. 13, 1933, a contract was made with the Waghorne-Brown Company to remove a portion of the parapet wall on the observation platform at the outer end of the pier, to provide an opening 30 feet 6 inches wide, and to furnish and to erect a steel fence to close the opening, for the lump sum of \$322. The work was completed Nov. 10, 1933.



A contract was made on Sept. 13, 1933, with the Waghorne-Brown Company to make alterations to the movable gangway at the pier, by changing the width of the lower ramp from 4 feet to 8 feet, and making alterations in the upper ramp by the construction of new crickets to adjust the gangway to alterations in the parapet coping. The contract price for this work is the lump sum of \$1,044. The work was completed Nov. 10, 1933.

On Sept. 20, 1933, a contract was made with Louis P. Steensen for cleaning and painting all exterior structural steel work on the sides and outer end of the pier for the lump sum of \$1,720. Later this contract was extended to include painting the rooms and corridors in the head house. The work is now in progress.

A letter contract was made with George T. McLauthlin on Nov. 21, 1933, for installing sixteen elevator gates on four elevators at the pier for the sum of \$2,400.

During the summer the offices at the pier occupied by the engineers of the Department and by the registry of motor vehicles were vacated for space in the Public Works Building at 100 Nashua Street. This change releases practically the entire pier for shipping, cargo and passenger use. Some office partitions have been removed and openings made in others by the operating force so that cargo may be more easily transferred into certain parts of the area vacated.

Captains of the large passenger liners using the pier have expressed considerable concern lest a combination of a strong westerly wind with an ebb tide should cause a vessel heading for the east berth to strike or ground upon the bank in front of the Fish Pier. To reduce this hazard a contract was made on Sept. 26, 1933, with the Bay State Dredging and Contracting Company for dredging to a depth of 35 feet at the mean low water, an area to widen the approach to the east berth of the pier, at the following contract prices: for dredging and disposing of the dredged material, 43 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress.

A summary of freight and passengers using the pier in 1933 follows:

**FREIGHT AND PASSENGERS AT COMMONWEALTH PIER NO. 5 DURING  
FISCAL YEAR ENDING NOVEMBER 30, 1933**

Name of SS. Line	No. of Ships	In Fgt. RR. (Tons)	Trucks (Tons)	Total Tonnage	Out Fgt. RR. (Tons)	Trucks (Tons)	Total Ton- nage	Passengers		Total
								In	Out	
Am. Haw. SS. Co. .	102	18,570	105,386	123,956	7,487	30,847	38,334	-	-	-
Luckenbach SS Co. Inc.	71	8,040	53,114	61,154	3,797	14,112	17,909	-	-	-
Norton, Lilly & Co. .	64	1,721	10,985	12,706	523	4,129	4,652	-	-	-
White Star Line .	41	962	5,564	6,526	1,556	1,237	2,793	2,844	3,007	5,851
Canadian Nat. SS. Co..	77	-	-	-	-	-	-	2,068	1,888	3,956
Italian Line .	16	-	34	34	-	80	80	-	2,167	2,167
Hamburg-Amer. Line .	4	-	-	-	-	-	-	125	209	334
Byron SS. Co. .	9	-	-	-	-	-	-	-	759	759
Norton Lilly & Co. (Foreign)	1	243	10	253	-	-	-	18	-	18
<b>SUMMARIES</b> .	<b>385</b>	<b>29,536</b>	<b>175,093</b>	<b>204,629</b>	<b>13,363</b>	<b>50,405</b>	<b>63,768</b>	<b>5,055</b>	<b>8,030</b>	<b>13,085</b>

## DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

During the year the seven sections in Storehouse No. 1 on E Street have been occupied by the Wiggin Terminals, Inc. Minor repairs have been made to the warehouse as they became necessary.

In accordance with the terms of the agreements of May 10 and June 7, 1932, the Department relinquished early in the year sections M and N of the D Street Storehouse, leaving the entire building to the Economy Grocery Stores Corporation.

A few months later the Corporation began negotiations for the purchase of a parcel of land containing about 36,275 square feet off D Street and southerly of the property of George C. Corcoran. An agreement under date of Oct. 3, 1933, was approved by the Governor and Council on Oct. 18, for the sale of this land to the Economy Grocery Stores Corporation. The instrument provides that the land becomes the property of the Corporation upon the completion of the payment of \$21,764.99 in nine annual payments, including interest each year upon the unpaid balance.

Under date of August 29, 1933, a lease was granted to the United States of an area about 800 feet by 600 feet at Marine Park, South Boston, and of a right of way from Farragut Road, to allow the establishment of a "T S" radio range station. This lease carries an option of annual renewals to June 30, 1943.

## GRASSELLI WHARF

This wharf has been used during the year by various owners for tying up motor boats and other craft. A part of the land and pier has been occupied by a gasoline filling station. The entire property is available for lease.

## THE COMMONWEALTH FLATS AT EAST BOSTON

*Aircraft Landing Field — Boston Airport*

The greater part of the area reclaimed by the Commonwealth at East Boston continues to be occupied by the city of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the City approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. The matter of the lease to the city of two additional parcels, one northeasterly of the areas leased in 1928 and 1930, the other southeasterly of the parcel leased in 1930, is now pending.

The use of these areas by the City is subject to certain rights of occupancy and use granted by lease of June 30, 1922, to the War Department, with an option of annual renewals extended to June 30, 1937, by a supplementary agreement of Dec. 27, 1926.

## RECLAMATION OF FLATS

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and Nov. 30, 1933, approximately 2,681,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1933, approximately 83,900 cubic yards were dumped upon flats northerly of Governor's Island. The Commonwealth has reclaimed about 150 acres of land at East Boston.

Under licenses granted in 1930 and 1931, for the building of bulkheads, dredging and filling, the City of Boston has reclaimed for the extension of the Airport an area of approximately 140 acres.



## COMMONWEALTH PIER 1, EAST BOSTON

During the greater part of the year the east and west docks of this pier have been used by the Eastern Steamship Lines, Inc., for tying up steamers when not in service.

Under date of Nov. 6, 1933, a lease of this pier was executed to John G. Hall and Company, Inc., for a period beginning Nov. 1, 1933 and ending October 31, 1934, with an option of renewal for one year at the same terms. The lease provides for a rental of \$6,000 yearly plus accruments on all cargo in or out of the pier and on all cargo interchanged between vessel and pier or lighter or other vessel, as follows: annually ten cents per ton of 2,240 pounds up to 15,000 tons; five cents per ton of 2,240 pounds from 15,000 to 40,000 tons; and two and one-half cents per ton of 2,240 pounds on all cargo over 40,000 tons.

The instrument provides that the pier shall be used exclusively for waterborne commerce and that no storage warehouse business shall be carried on upon the premises.

On Nov. 28, 1933, a contract was made with Waghorne-Brown Company for the construction and erection of sixteen sliding steel doors to replace wooden (cargo) doors at this pier, at a contract price of \$143.37 for each door furnished and erected.

## BOSTON HARBOR — REMOVAL OF ABANDONED HULKS OR WRECKS

By Chapter 89 of the Acts of 1933, an appropriation of \$50,000 was made for removing abandoned hulks or wrecks lying along the waterfront of Boston Harbor. An additional appropriation of \$25,000 for this purpose was made by Chapter 371 of the Acts of 1933. This work has been carried on during the year under the following contracts.

On Apr. 4, 1933, a contract was made with the Bay State Dredging and Contracting Company for removing several hulks from Boston Harbor, in areas near Chelsea Bridge, off the foot of Hanover Street and westerly of the steamboat wharf in Winthrop Harbor, at a contract price of the lump sum of \$2,700. This work was completed Apr. 17, 1933.

A contract was made on Apr. 18, 1933, with Roy B. Rendle and Company, Inc., for the removal of several hulks with their debris and of old piles from property of the Boston Port Development Company at Condor Street, East Boston, at a lump sum price of \$3,800 for removing and disposing of hulks, and of \$600 for pulling and disposing of piles. **This work was completed June 19, 1933.**

On Apr. 25, 1933, a contract was made with The Rendle Corporation to remove several hulks from Chelsea Creek on property of the Boston Port Development Company adjacent to Putnam and Condor Streets, East Boston, at a contract price of \$1,800 for removal and disposal of the hulks. Under date of June 7, 1933, the contractor was directed to remove for the sum of \$400 all additional hulks or wrecks encountered in the course of the work. The removal of hulks under this contract was completed July 12, 1933.

A contract was made on Aug. 1, 1933, with John Forward for the removal of hulks or wrecks from Chelsea Creek adjacent to Condor Street near Glendon Street, East Boston. The contract prices for this work are: for the removal and disposal of the steel hulk formerly known as the "Yankton", \$500; for the removal and disposal of all hulks or wrecks or parts of hulks or wrecks, except the steel hulk "Yankton", the lump sum of \$2,900. Work under this contract is not yet completed.

On Aug. 29, 1933, a contract was made with the M & R Construction Company for the removal of several wrecks and debris from Chelsea Creek on property of the Boston Lockport Block Company, East Boston, and the Quincy Oil Company, Chelsea, and from the site of the old Chelsea Ferry in Boston Harbor on property of Etta C. Lowell. The

contract price for this work is the lump sum of \$1,495. This work is now in progress.

In order to give, in accordance with the intent of Chapter 89 of the Acts of 1933, as much relief as possible to unemployment, material from the wrecks removed was placed on shore at various locations along the water front. The breaking up of this material provided work for additional labor for about 15,800 man days.

#### ANCHORAGE BASIN

On June 13, 1933, a contract was made with the M. and R. Construction Company to furnish, drive and secure piles to rebuild Dolphin "A" on the northerly edge of the anchorage basin at Bird Island Flats, for the lump sum of \$175. This work was completed in July 26, 1933.

#### BOSTON INNER HARBOR

In January request was made for further dredging at the mouth of Fort Point Channel between Pier 1 of the New York, New Haven and Hartford Railroad Company and Rowe's Wharf and Fosters Wharf, in order to provide more convenient access for steamers using the piers on Atlantic Avenue.

A contract was made on Sept. 26, 1933, with the Bay State Dredging and Contracting Company to dredge to a depth of 25 feet at mean low water an area off the entrance to Fort Point Channel at the following contract prices: for dredging and disposing of dredged material, 37 cents per cubic yard, scow measurement; for removing and disposing of all boulders, \$20 for each cubic yard. This work is now in progress.

#### MYSTIC RIVER DREDGING

In August of this year a request was received from the Merrimac Chemical Company for dredging in Mystic River just above Malden Bridge to prevent the grounding of vessels turning from the main channel into the channel leading to property of the Company.

On Oct. 10, 1933, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of 16 feet at mean low water an area approximately 750 feet long and 90 feet wide in Mystic River above Malden Bridge, at the following contract prices: for dredging and disposing of the dredged material 41 cents for each cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress.

#### PLEASANT PARK, WINTHROP

On Jan. 25, 1933, hearing was held upon the petition of the Pleasant Park Yacht Club for dredging a channel in Belle Isle Inlet from Nun Buoy No. 6 to the basin and channel leading to the Pleasant Park Yacht Club and to the adjacent boat yard.

A contract was made on Nov. 28, 1933, with the Bay State Dredging and Contracting Company for dredging a channel at Pleasant Park about 60 feet wide and 3,800 feet long to a depth of 6 feet at mean low water at the following contract prices: for dredging and disposing of dredged material 38 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work has not yet begun.

#### SOUTH BAY

On May 2, 1933, a lease was given to the Downes Lumber Company to continue for a term of five years from May 15, 1933, its occupancy of certain wharf property of the Commonwealth at South Bay, Roxbury, at a rental of \$2,400 per year.



## STONY BEACH, HULL

By Chapter 330 of the Acts of 1933 the Department is authorized to place riprap for the protection of Stony Beach from erosion by the sea, at a cost of not more than \$16,000. The statute provides that no work shall be begun until the town of Hull has assumed liability, in the manner provided by section 29 of Chapter 91 of the General Laws, for all damages that may be incurred, nor until the sum of \$4,000 each has been paid into the State Treasury by the town and by the County of Plymouth. This act takes full effect upon its acceptance during 1933 by vote of the County Commissioners of Plymouth County and by vote of the town of Hull in town meeting and the filing in the office of the Department of certified copies of these votes.

In August a certified copy of a vote of the County Commissioners at a meeting held Aug. 8, 1933, accepting the provisions of the Act, was filed with the Department, and a certified copy of the vote of the town at a meeting held Sept. 21, 1933, in acceptance of the statute, was received later.

Not until Oct. 31, 1933, however, did the town of Hull vote to assume liability for damages, as required by the Act, and to authorize the Selectmen to execute the necessary bond of indemnity.

The contributions of \$4,000 each from the town and county were received in November, but no contract for the work has yet been made.

## WOLLASTON DREDGING

By Chapter 222 of the Acts of 1932, the Department is authorized to dredge a channel to a depth of not less than 6 feet at mean low water, from Quincy Bay southwesterly to the area in front of the Wollaston Yacht Club and the Squantum Yacht Club, and to dredge a basin in said area. The statute limits the total expenditure to \$12,000 and provides that no work shall be begun until the City of Quincy has paid into the State Treasury a contribution of \$3,000.

Upon the receipt of the required contribution on June 5, 1933, a contract with the Bay State Dredging and Contracting Company was made on June 6, 1933, to dredge to a depth of 6 feet at mean low water a basin and channel at the Squantum and Wollaston Yacht Clubs, the basin 600 feet on the southerly side, 120 feet on the westerly end, and 300 feet on the easterly end, narrowing into an approach channel 75 feet wide on the bottom, to be dredged northerly from the basin for such length as funds available permit. The contract prices are: for dredging channel and basin and disposing of dredged material, 38 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$10 per cubic yard. This work was completed July 11, 1933, at a contract cost of \$11,893.62.

## SURVEYS

During the year re-surveys were made of wharf and shore lines along parts of Mystic River in Charlestown, Somerville and Medford, of Chelsea Creek in East Boston and Chelsea, and of Charles River in Boston and Cambridge.

Hydrographic surveys have been made in various locations in Boston Harbor, in Mystic River between Malden Bridge and the Eastern Division Bridge of the Boston and Maine Railroad, in Charles River between the Boston and Maine Railroad Bridge and the Charles River Dam, in Dorchester Bay near the Old Colony Yacht Club, and in Quincy Bay at the Squantum and Wollaston Yacht Clubs.



## RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$25,000 was made during 1931, with the following condition:—

“provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$22,500 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Allens Harbor, Harwich; Bathhouse Beach, West Dennis; Falmouth Inner Harbor, Falmouth; Harwich Shore Protection; Herring River Dike, Wellfleet; Horse Grass Island, South Harwich; Humarock Beach, Scituate; Ipswich River, Ipswich; Nobscusset Harbor, Dennis; Sagamore Beach, Bourne; Sengekontacket Pond, Oak Bluffs; South Dennis Shore, Dennis; Stage Harbor, Chatham; Witchmere Harbor, Harwich.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Horse Grass Island, South Harwich; Humarock Beach, Scituate; Ipswich River, Ipswich; Sagamore Beach, Bourne; Sengekontacket Pond, Oak Bluffs; Stage Harbor, Chatham.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth, and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1933 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows:

### ALLENS HARBOR, HARWICH

Hearing was held on Jan. 25, 1933, on petitions of the Selectmen of Harwich and of E. O. Engstrom for repairs to the stone jetties at the entrance to Allens Harbor.

A contract was made on Mar. 14, 1933, with Joseph W. Nickerson for placing stone riprap and chips to reinforce and strengthen the existing timber jetties, at a contract price of \$3.19 per ton for riprap or stone chips furnished and placed in the completed work. Under this contract work was completed May 17, 1933, at a contract cost of \$11,847.13. Toward this cost a contribution of \$3,000 was made by the town of Harwich and one of \$3,500 by the Allen's Harbor Properties, Inc.

While the jetties at the entrance to the harbor are now in excellent condition, the movement of material into the channel before repairs were made has caused considerable shoaling. Dredging is now needed to restore a suitable depth in this channel.

Amount expended during the year, \$12,438.63. Total expenditure to Dec. 1, 1933, \$51,146.43.



## CAPE COD CANAL LANDING PIER

The work of building in the Cape Cod Canal at Bourne Neck, the landing pier authorized by Chapter 441 of the Acts of 1931, has continued during 1933.

Under contract of Apr. 26, 1932, with the Merritt-Chapman and Scott Corporation for building the pier, dredging a berth, approach channels and turning basin, and constructing mooring dolphins and appurtenances, work was completed Mar. 25, 1933, at a contract cost of \$215,500.95.

On May 2, 1933, a contract was made with the Pasquale Construction Company, Inc., for the construction of a concrete retaining wall about 310 feet long around the raised portion of the pier, of concrete steps and ramps, for the furnishing and laying of about 120 feet of 6 inch and 80 feet of 2 inch water pipe, and for the setting of one hydrant and check valve for fire service, at the Cape Cod Canal Pier. This work was completed June 29, 1933, at a contract cost of \$1,737.75.

On June 6, 1933, a contract was made with the Waghorne-Brown Company to construct two moveable gangways in the drops of the Cape Cod Canal Pier at a contract price of the lump sum of \$2,645 for furnishing the two gangways and erecting them in place ready to operate. During the progress of the work it was found advisable to install a locking device at an additional cost of \$175. Work under this contract was completed Aug. 31, 1933.

Plans and estimates were prepared in the spring for building different types of superstructures upon the pier. As the funds at the disposal of the Department were limited, it became evident that the architectural style of structure desired by local interests could not be built for the money available. Under the provisions of Chapter 227 of the Acts of 1933, an additional appropriation of \$12,500 was made to permit the construction of a brick building of the type approved by the communities particularly interested in the matter.

A contract was made on June 6, 1933, with the Durso Construction Company for the construction of a building approximately 220 feet long and 35 feet wide at the Cape Cod Canal Pier for the lump sum of \$21,378. In July the contractor was authorized by the Board to substitute in the construction for the blue monson slate specified, an unfading green slate at an additional cost of \$644. The work under this contract is now nearing completion.

On July 25, 1933, a contract was made with the Mass. Electric Construction Company to furnish and install complete a lighting and power service in the building and pier at the Cape Cod Canal Pier, for the lump sum of \$1,239. An additional expenditure of \$64 was authorized later under this contract to provide for installing two lightning ground pipes. This work was completed Oct. 24, 1933, at a contract cost of \$1,292.12.

While not entirely completed and equipped the landing pier could be used by vessels in the spring of this year. As many inquiries were made by steamboat companies concerning charges for the use of the pier, the Board established temporary rates approved by the Governor and Council Mar. 29, 1933, and effective Apr. 1, 1933. These regulations are now in force but will be superseded later by permanent rates.

The pier as now completed provides dockage on the main frontage for a length of 600 feet with a depth of 25 feet at mean low water. There is also a tieup about 550 feet long on the westerly end and a depth of 23 feet at mean low water. As yet, the use made of the pier has been principally for the landing of excursion parties, although one small steamer was operated during the fall to carry shipments of freight to New York. At present the tying up at the pier of contractors' equipment has facilitated the work of the Federal Government in dredging operations in the Cape Cod Canal.

Amount expended during the year for construction \$87,469.35, for operation and maintenance \$2,135.46. Total expenditure to Dec. 1, 1933, for construction \$258,362.64, for operation and maintenance \$2,135.46.

#### CONNECTICUT RIVER, HADLEY

Hearing was held Oct. 4, 1933, on the petition of the Chairman of Selectmen of Hadley for the building of a dike for the protection of property from damage by the overflow of the Connecticut River.

Toward the cost of the work a contribution of \$2,000 was made by the town of Hadley. The construction is now being carried on by local labor, in accordance with the request of the Selectmen.

Amount expended during the year, \$3,214.09. Total expenditure to Dec. 1, 1933, \$121,955.04.

#### CUTTYHUNK HARBOR, GOSNOLD

Chapter 179 of the Acts of 1933, authorizes the Department to dredge and enlarge the harbor in the town of Gosnold at an expenditure not exceeding \$10,000, provided a contribution of 10% of the cost of the work is made, and the town assumes liability for damages.

At a town meeting held May 26, 1933, the town voted to assume liability for damages in accordance with the provisions of the act, and in June sent the required contribution of \$1,000.

A contract was made on June 27, 1933, with the Saybrook Dredging Company for dredging in Cuttyhunk Harbor a channel 75 feet wide on the bottom and 10 feet deep at mean low water, and to the same depth a basin 300 feet wide and 500 feet long on the bottom at the following contract prices: for dredging and disposing of the excavated material on shore by the hydraulic process, including construction of necessary dikes and sluices, 28.8 cents per cubic yard measured in situ; for removing and disposing of boulders \$10 per cubic yard. This work was completed Sept. 9, 1933, at a contract cost of \$9,160.70.

After the completion of the dredging the engineer reported that shoaling in this harbor is chiefly due to the passing of sand over the top of the northerly jetty and recommended the building of a concrete wall on the stone work of this jetty. As the materials needed are available a short distance from the jetty, it was suggested that the project be carried out on a day basis by using local labor. This work has been authorized by the Board and is now in progress by the method suggested.

Amount expended during the year, \$12,846.93. Total expenditure to Dec. 1, 1933, \$83,935.78.

#### DENNIS SHORE

Hearing was held Jan. 25, 1933, on the petition of George F. James and Mary Buckley for the building of a stone jetty on the easterly side of property of Fred H. Buckley at Dennisport to check the erosion taking place along the shore.

On Aug. 15, 1933, a contract was made with Sidney W. Lawrence for the construction of a stone jetty at Dennisport at a contract price of \$3.12 for each ton of 2,000 pounds of stone riprap and granite chips furnished and placed in the jetty. This work was completed Oct. 14, 1933, at a contract cost of \$1,007.76. Toward this cost a contribution of \$600 was made by the owners of property involved.

On Sept. 6, hearing was held upon the petition of the Selectmen of Dennis for the protection of the shore westerly of Nobscusset Harbor.

On Sept. 19, 1933, a contract was made with Sidney W. Lawrence to construct two stone jetties west of Nobscusset Harbor at a contract price of \$3.10 for each ton of stone riprap furnished in place in the completed work. Toward the cost of these jetties a contribution of \$600 each has been made by the town of Dennis and by the County of Barnstable. This work is now in progress.



Hearing was also held on Sept. 6, 1933, upon the request of the town officials for protection of the property of the town at Bathhouse Beach, West Dennis, from erosion by the sea.

On Nov. 28, 1933, a contract was made with Sidney W. Lawrence to build a stone jetty at this beach at a contract price of \$3.10 for each ton of stone riprap and granite chips furnished and placed in the jetty.

Toward the cost of this work a contribution of \$375 has been made by the Town, and an equal amount by the county.

Amount expended during the year, \$884.95. Total expenditure to Dec. 1, 1933, \$884.95.

#### ELLISVILLE HARBOR, PLYMOUTH

For some years the work of repairs at this harbor has been carried out by local labor under the general direction of the Department. During the current year the dike and the timber work in the jetty have been repaired by this method.

A letter contract of June 21, 1933, was also made with Arthur K. Finney to furnish a caterpillar crane and excavate the entrance channel at a price of \$4 per hour. This work was completed July 13, 1933, at a contract cost of \$200.

Amount expended during year, \$499.40. Total expenditure to Dec. 1, 1933, \$20,673.58.

#### FALMOUTH INNER HARBOR

Hearing was held on Aug. 16, 1933, on the petition of the Selectmen of Falmouth for widening and deepening the entrance from Vineyard Sound into Falmouth Inner Harbor.

A contract was made on Sept. 5, 1933, with the Bay State Dredging and Contracting Company for dredging in the entrance channel to a depth of 10 feet at mean low water and a width of 100 feet on the bottom at the following contract prices: for dredging and disposing of the dredged material 47 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Oct. 4, 1933, at a contract cost of \$3,611.48. Toward this cost a contribution of \$2,000 was made by the town of Falmouth.

Amount expended during the year, \$3,883.37. Total expenditure to Dec. 1, 1933, \$154,279.63.

#### GREEN HARBOR, MARSHFIELD

On Dec. 27, 1932, a contract was made with Thomas Whalen & Sons, Inc., for placing about 600 tons of stone riprap to protect the shore, adjacent to the northerly end of the east jetty at the entrance to Green Harbor, at a contract price of \$1.88 for each ton of stone riprap or chips furnished in place in the completed work, including all excavation, backfilling and incidental work. This project was completed Feb. 25, 1933, at a contract cost of \$1,341.43.

Amount expended during the year, \$1,769.01. Total expenditure to Dec. 1, 1933, \$167,238.38.

#### GUN ROCK — GREEN HILL SEA WALL, HULL

The building of eight concrete spur jetties and the placing of a concrete footing in front of a part of the sea wall between Gun Rock and Green Hill, under contract of Oct. 25, 1932, with Thomas Whalen and Sons, Inc., was completed Dec. 29, 1932, at a contract cost of \$1,095.22.

On Mar. 15, 1933, a letter contract was made with George W. Starbuck for repairs to a damaged portion of the sea wall, at a contract price of \$980. This work was completed Apr. 21, 1933.

In October letters were received from property owners complaining of the condition of parts of this wall and asking further protection for the shore. The Department offered to place riprap at an estimated cost



of \$2,500 upon receipt of a contribution of one-half this cost. The town has voted to make the necessary appropriation, but, on account of the objection made by some of the property owners to the use of riprap along this shore no further action has been taken.

Amount expended during the year, \$2670.29. Total expenditure to Dec. 1, 1933, \$42,093.96.

#### HARWICH SHORE PROTECTION

The work of building a stone jetty at West Harwich under contract of Nov. 9, 1932, with Sidney W. Lawrence was completed Dec. 17, 1932, at a contract cost of \$714.43.

Hearing was held Jan. 25, 1933, on petitions of the Selectmen of Harwich for further shore protection.

In October the Barnstable County Commissioners voted to make a contribution of \$2,000 toward the cost of shore protection, to be used with the appropriation of an equal amount by the town. Proposals for building seven jetties on the beach east of Allens Harbor, for extending the jetty and placing riprap at West Harwich, and for repairs to jetty and riprap at South Harwich, are to be received early in December.

Amount expended during the year, \$1,070.59. Total expenditure to Dec. 1, 1933, \$31,822.24.

#### HERRING RIVER, HARWICH

On Feb. 7, 1933, a contract was made with Arthur K. Finney to furnish and place sand along the easterly shore of Herring River, Harwich, on property of Charles E. LeBuff, for the lump sum of \$572. Work was completed Apr. 6, 1933, at a contract cost of \$572. Toward this cost a contribution of \$300 was made by the town of Harwich.

Complaints were received in June of shoaling at the mouth of Herring River in an amount sufficient to prevent the entrance of yachts accustomed to use this harbor. As the dredging plant of the Saybrook Dredging Company was just completing dredging at Witchmere Harbor, a letter contract with this Company was made on July 7, 1933, for dredging the entrance channel to Herring River 100 feet wide and 6 feet deep at mean low water at a contract price of \$1,800. This work was completed July 14, 1933.

Amount expended during the year, \$2,690.61. Total expenditure to Dec. 1, 1933, \$134,720.58.

#### HERRING RIVER, WELLFLEET

Chapter 217 of the Acts of 1933 authorizes the Department, for the purpose of providing better drainage above the dike across the mouth of Herring River, to make, in consultation with the State Reclamation Board, such changes as appear necessary in the dike and its appurtenances, and to dredge or clear all obstructions in the channels above the dike at an expenditure not exceeding \$10,000.

Repairs and changes in the dike by the use of local labor in charge of an inspector from the Department, have been made in accordance with plans agreed upon by the Department of Public Works and by the State Reclamation Board. This part of the work has cost approximately \$3,000.

In repairing the dike sections of the floor have been removed and the area beneath has been filled with concrete to seal leaks causing damage to the structure. A section of the upper part of the timber sluices was also removed and replaced by a reinforced concrete slab. The two tide gates were changed to permit discharge of water under a smaller head, and the sluice gate was replaced by the so-called "barn-door" type gates. As a result of these changes the discharge of water through the dike has been increased about fifty percent. This additional discharge area will maintain the water level of the pond above the dike at a lower elevation



which will facilitate the flow from the more remote portions of the marsh land drained by Herring River.

To carry out the drainage work above the dike, the two Boards have decided to hire on an hourly basis a caterpillar crane, including an operator and fuel, and to secure from local sources the additional labor required. This method permits of greater flexibility and allows changes from day to day as conditions necessitate. This work is now in progress.

Amount expended during the year, \$4,811.12. Total expenditure to Dec. 1, 1933, \$39,320.50.

#### HYANNIS HARBOR, BARNSTABLE

The work under contract of June 28, 1932, with Thomas Whalen and Sons, Inc., for building about 900 linear feet of creosoted timber bulkhead, was completed Dec. 10, 1932, at a contract cost of \$10,699.10.

The dredging of three areas in the harbor under contract of Aug. 9, 1932, with the Saybrook Dredging Company was completed May 13, 1933, at a contract cost of \$23,766.08.

The laying of pipes and building of four catch basins at the town landing east of Ocean Street under contract of Oct. 4, 1932, with Thomas Whalen and Sons, Inc., was completed Nov. 26, 1932, at a contract cost of \$821.50.

The work under the various contracts has provided a channel with a depth of 9 feet at mean low water from the outer harbor to the harbor head, and additional anchorage areas 6 feet deep at mean low water. The bulkhead now offers facilities for tying up yachts and fishing vessels of a draft of not more than 9 feet.

Amount expended during the year, \$29,246.94. Total expenditure to Dec. 1, 1933, \$40,494.50.

#### LAGOON POND, OAK BLUFFS AND TISBURY

Work under contract of Aug. 23, 1932, with Merritt-Chapman and Scott Corporation for dredging a channel at the entrance to Lagoon Pond and for building a stone jetty on the easterly side of the entrance was completed Dec. 21, 1932, at a contract cost of \$24,101.16.

The completion of this project has provided an entrance channel 6 feet deep at mean low water into Lagoon Pond, and a jetty of much value in improving the channel depth and causing the accretion of material along the Oak Bluffs shore where erosion has been rapid for many years.

Amount expended during the year, \$9,379.86. Total expenditure to Dec. 1, 1933, \$25,855.90.

#### LONG BEACH, ROCKPORT

The sea wall built by the Commonwealth in 1931 along this beach was somewhat damaged by the storm of Jan. 25-28 of this year, making it necessary to place a concrete footing under a part of the structure and riprap protection along the toe.

Under a letter contract of Feb. 21, 1933, with Napoleon J. Loran-deau a concrete footing was placed under about 250 feet of this wall. The work was completed Mar. 11, 1933, at a contract cost of \$1,030.66.

On Apr. 25, 1933, a contract was made with Thomas Whalen and Sons, Inc., for furnishing and placing about 2,000 tons of stone riprap and chips to protect the face of a portion of the concrete sea wall at Long Beach at a contract price of \$1.43 per ton for riprap or stone chips furnished and placed in the completed work. This project was completed June 2, 1933, at a contract cost of \$3,134.74. Toward this cost a contribution of \$1,700 was made by the town of Rockport.

Amount expended during the year, \$4,790.25. Total expenditure to Dec. 1, 1933, \$57,306.56.

## MARSHFIELD SHORE PROTECTION

Under the provisions of Chapter 407 of the Acts of 1931, protective work along the Marshfield shore has been continued during the year.

The building of the sea wall south of the U. S. Coast Guard Station at Brant Rock, under contract of Sept. 27, 1932, with A. Piatelli and Company was completed Jan. 2, 1933, at a contract cost of \$8,643.15.

To repair damage caused by the storm of Jan. 25-28, a letter contract was made on Feb. 14, 1933, with Frank H. Barry to place concrete footing under the wing wall at the northerly end of the sea wall at Fieldstone. This work was completed Mar. 20, 1933, at a contract cost of \$1,260.32.

On June 6, 1933, a contract was made with the Corsetti and Arcese Company for building about 400 linear feet of concrete sea wall, about 115 feet of reinforced concrete footing and about 250 linear feet of reinforced concrete cap and back to old masonry wall. and for backfilling about 250 linear feet of wall, at Brant Rock. The contract prices for this work are: for furnishing material and constructing the concrete sea wall, including all excavation, backfilling, removing old walls and all incidental work, \$7.32 for each cubic yard of concrete measured in the completed work; for furnishing material and constructing the reinforced concrete footing, including all excavation, filling and backfilling, removing old walls or structures and all incidental work, \$8.00 for each cubic yard of reinforced concrete measured in the completed work; for furnishing material and constructing the reinforced concrete cap, backing and steel dowels, including all excavations, backfilling, and all incidental work, \$8.60 for each cubic yard of reinforced concrete in the completed work; for each cubic yard of filling material furnished, delivered and measured in place in the completed work 40 cents. This work was completed Aug. 30, 1933, at a contract cost of \$7,880.63.

Amount expended during the year, \$14,692.35. Total expenditure to Dec. 1, 1933, \$229,665.64.

## NAHANT SHORE PROTECTION

By Item 591a of Chapter 371 of the Acts of 1933 an appropriation of \$15,000 is made available for shore protection in Nahant as soon as the town pays an equal sum into the State Treasury.

The town made the required contribution in August, and contract was made on Oct. 10, 1933, with the M. McDonough Company to place about 14,000 tons of heavy stone riprap for the protection of about 2,400 linear feet of shore on the westerly side of Nahant Road, at a contract price of \$1.18 for each ton of stone riprap furnished in place in the completed work.

This work is now in progress.

Amount expended during the year, \$2,296.28.

## NEW BEDFORD STATE PIER

Because of the landing of unusually large cargoes of cotton at the State Pier early in the year, the commercial and shipping interests of New Bedford asked for an increase in the covered area for the receipt of goods, in order that proper protection might be assured while cargo was waiting for shipment.

At about this time also the Lamport Manufacturing Supply Company, Inc., requested a reduction in the rental which this year increased from \$6,000 to \$10,000 per annum under the terms of the lease of July 29, 1927, of a portion of the pier.

At the request of the Mayor and Aldermen under the provisions of Chapter 375 of the Acts of 1920, a public hearing was held on these matters in New Bedford on Mar. 23, 1933. At the hearing and at various



conferences held relative to the situation, it was evident that while the City authorities and the Board of Commerce wished to secure more space for cargo at the pier, they were desirous of retaining for the city the industry carried on at the pier by the Lamport Manufacturing Supply Co., Inc. This industry was considered of particular value to the city at this time because of the employment it provides for local workers.

After consideration of all the circumstances the Department suggested that a new lease be executed requiring the Company to surrender for shipping and cargo purposes a part of the northerly platform in the wooden shed on the pier, and granting in return for this concession a reduction in rental sufficient to ensure the continuance of the industry desired by the city. Under date of Apr. 27, 1933, an indenture was executed abrogating by mutual agreement the lease of July 29, 1927, and negotiating a new lease for a term of three years. This instrument, approved by the Governor and Council May 3, 1933, reserves for the use of shipping 180 feet of the northerly platform of the wooden shed, and fixes the rental of the Lamport Manufacturing Supply Company, Inc., at \$5,500 per year for the term of the lease.

On July 5, 1933, a contract was made with the J. S. Packard Dredging Company to dredge the north and south docks and their approaches at the New Bedford State Pier: the north dock and approach to a depth of 30 feet at mean low water with a bottom width of 57 feet; the outer portion of the south dock and approach to a depth of 25 feet at mean low water with a bottom width of 40 feet; the inner portion of the south dock to a depth of 20 feet at mean low water with a bottom width of 40 feet. The contract prices for this work are: for dredging and disposing of the dredged material 48 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. Because of the high unit costs of this work the funds available limited the project to the dredging of the northerly dock and of the approaches to both docks. Work was completed Oct. 2, 1933, at a contract cost of \$6,999.96.

Proposals for new doors, steel sash and repairs to plaster walls by the gunite process were received Nov. 28, 1933, and contract for the work awarded to the National Gunite Contracting Company.

Minor repairs to the pier have been made as usual during the year.

Amount expended for operation, maintenance and improvement during the year, \$13,594.63.

Income during the year, \$19,248.84.

Total expenditure for operation, maintenance and improvement to Dec. 1, 1933, \$137,988.12.

#### OAK BLUFFS SEA WALLS

The work of repairs and additions to the timber bulkhead and jetties at the Highlands, carried on under letter contract of Nov. 28, 1932, with Arthur K. Finney, was completed Jan. 17, 1933, at a contract cost of \$2,348.57. Toward this cost a contribution of \$1,500 was made by the town.

Under contract of Nov. 29, 1932, with the Merritt-Chapman and Scott Corporation for the removal of a broken section of the concrete sea wall southerly of the entrance to Lake Anthony, for the building of a new section, and for the placing of riprap, work was completed Jan. 16, 1933, at a contract cost of \$2,259.65.

On Sept. 5, 1933, a contract was made with the Pasquale Construction Co., Inc., for the construction of about 145 linear feet of concrete footing along the toe of the existing concrete sea wall north of the Steamboat Wharf at a contract price of \$23 per cubic yard for each cubic yard of concrete measured in place in the completed work.

Additional work was authorized later under this contract to pro-

vide for the placing of a concrete footing under another section of wall undermined by the storms in September. The entire work was completed Oct. 11, 1933, at a contract cost of \$1,340.21.

A contract was made on Sept. 19, 1933, with Joseph W. Nickerson to place stone riprap to protect the southerly shore of Lake Anthony adjacent to the highway at a contract price of \$2.98 for each ton of stone riprap furnished in place in the completed work. This project was completed Oct. 24, 1933, at a contract cost of \$909.82. Toward this cost a contribution of \$500 was made by the town.

An examination during the year of the section of shore near the bathhouse southerly of the steamboat wharf, revealed so much damage to sea walls in this location that the highway is in danger of being undermined if the erosion continues. The town appropriated \$6,000 as a contribution toward the cost of building a sea wall and spur jetties, but has been unable to secure the releases necessary from the Vineyard Grove Company, owner of adjacent property. Under these circumstances no protective work has been undertaken at this shore.

Amount expended during the year, \$8,426.24. Total expenditure to Dec. 1, 1933, \$238,511.08.

#### ORLEANS SHORE

A contract was made on June 27, 1933, with J. W. Nickerson for placing stone riprap to protect the shore adjacent to the highway bordering Pleasant Bay in the town of Orleans, at a contract price of \$2.98 for each ton of stone riprap furnished in place in the completed work, including all excavation, back filling and incidental work. The work was completed July 28, 1933, at a contract cost of \$1,747.41. This cost was paid from funds available for highway maintenance.

Amount expended during the year, \$1,861.03.

#### COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$3,800 was made by the Legislature this year for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The usual care of the grounds and of the pier and necessary minor repairs were carried on during the year.

Requests received from various steamship lines for the use of the pier for passenger service made it advisable to amend the rules and regulations adopted in 1927. The following amendment was approved by the Governor and Council on June 21, 1933:

"Said pier shall not be used for commercial purposes by any person or concern except by boats for the embarkation or landing of passengers."

Amount expended during the year, \$3,407.07. Total expenditure to Dec. 1, 1933, \$48,056.48.

#### PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for this area and the Province Lands. An employee of the Department has been kept at work during the summer to maintain the park in proper condition.

#### SCITUATE SEA WALLS

##### *North Scituate*

During the winter an inspection of the concrete sea wall at Surfside road found a section about 100 feet long undermined to a depth of 2 feet, and one of the spur jetties practically destroyed. A letter contract



was made under date of Feb. 14, 1933, with Frank H. Barry for the necessary repairs. The work was completed May 19, 1933, at a contract cost of \$2,540.91.

### *Work Under Special Legislation*

By Chapter 286 of the Acts of 1933 the Department is authorized to expend not more than \$75,000 to build extension to certain sea walls and to repair existing sea walls and other shore protection in the town of Scituate. The Act stipulates that no work shall begin until the Town has voted to accept the provisions of the statute, assumed liability for damages and paid into the Treasury of the Commonwealth \$18,750, nor until the County Commissioners of Plymouth County have voted to accept the provisions of the Act and said County has paid \$18,750 into the State Treasury.

In August the Selectmen and County Commissioners filed with the Department certified copies of the required votes accepting the provisions of the Act. The Town also voted to assume all liability for damages. The contributions from the town and county made in accordance with the provisions of the statute were received in early September.

Under authority of this act work has been done covering the construction, extension and repair of sea walls in Scituate, and riprap protection of the shore, as follows:

#### *Glades*

On Oct. 4, 1933, a contract was made with Thomas Whalen and Sons, Inc., for the construction of about 250 linear feet of reinforced concrete cap and face to old concrete wall, the removal of about 128 feet of old concrete wall, and the placing of about 3,000 tons of stone riprap along the face of the concrete wall at the Glades, at the following contract prices: for furnishing material and constructing reinforced cap and face of wall, \$10 for each cubic yard of reinforced concrete measured in the completed work; for furnishing the stone riprap and depositing it in place along the concrete wall, \$1.65 for each ton of stone riprap furnished and in place in the completed work; for removing and disposing of about 128 linear feet of old concrete wall, the lump sum of \$150. This work was completed Nov. 24, 1933, at a contract cost of \$8,824.58.

#### *Sand Hills and Cedar Point*

An examination made in November of the sea walls at the Sand Hills found repairs needed to the wall originally built by the County and to the sea wall at Cedar Point damaged by action of the shingle on the beach. The repairs necessary for restoring these walls have been authorized, but no work has yet begun.

#### *Shore Acres*

On Sept. 5, 1933, a contract was made with Henry N. Worthington to furnish and place about 4,200 tons of heavy stone riprap and about 800 tons of stone chips to protect approximately 700 linear feet of bank at Shore Acres, at a contract price of \$1.38 for each ton of heavy stone riprap and chips furnished and placed in the completed work. Work under this contract was completed Nov. 11, 1933 at a contract cost of \$4,697.52.

A contract was made on Sept. 5, 1933, with A. K. Finney for the construction of about 930 linear feet of concrete sea wall, and the placing of about 1,100 tons of heavy stone riprap in front of the wall at Shore Acres, at the following contract prices: for furnishing material and constructing the concrete sea wall \$7.82 for each cubic yard of concrete measured in the completed work; for furnishing and placing heavy stone riprap for apron \$1.92 for each ton in the completed work. Under this contract, work is now in progress.

On Sept. 5, 1933, proposals were received for building a concrete sea wall and riprap apron along the shore in front of Oceanside Drive from a point northerly of Fourth Avenue to Eleventh Avenue. Protests from various owners of property were received against the building of the wall for a distance of about 600 feet easterly from Eleventh Avenue. The objections were carried to the point of the filing of a suit of equity in this matter.

Thomas H. Hannaford to whom the contract was awarded agreed to accept its terms and to build the shorter structure excluding the portion of the wall under controversy. On Sept. 12, 1933, a contract was made with Thomas H. Hannaford for the construction of about 2750 linear feet of concrete sea wall, seven concrete jetties, and furnishing and placing about 3,300 tons of heavy stone riprap in front of the wall, extending from the Sand Hills to Shore Acres, at the following contract prices: for furnishing material and building the concrete sea wall and jetties, \$7.79 for each cubic yard of concrete measured in the completed work; for furnishing and placing heavy stone riprap for apron, \$2.243 for each ton in the completed work. This work is now in progress.

Later in the season the property owners reached some compromise in the matter and asked the Department to build the remaining section of sea wall in accordance with the original specifications. No further action has been taken by the Department.

#### *Third Cliff*

A contract was made on Sept. 5, 1933, with Raymond A. Bergesson to place about 1,500 tons of stone riprap along the shore at Third Cliff, at a contract price of \$1.90 for each ton of riprap or stone chips furnished and placed in the completed work. This work is now in progress.

Amount expended in Scituate during the year for shore protection, \$45,532.14. Total expenditure to Dec. 1, 1933, for shore protection in Scituate, \$450,998.99.

#### TAUNTON RIVER

No work has been done by the Department this year upon the project to be carried out under the provisions of Chapter 405 of the Acts of 1930, by the dredging of a turning basin in Taunton River at Weir Village at the terminus of the channel to be dredged by the Federal Government to a depth of 12 feet at mean low water in the river.

As the Federal Government has not yet completed the channel, it was considered inadvisable to excavate the turning basin. It is expected that the channel will be finished during the coming year so that the Department can proceed to dredge the basin.

No expenditure during the year. Total expenditure to Dec. 1, 1933, \$31,561.95.

#### WARRENS COVE, PLYMOUTH

The damage done by heavy storms to the sea wall built by the Commonwealth in 1916 and 1917 near the Hotel Pilgrim has resulted in partially destroying the structure and in exposing the bank to severe erosion. The need for repairs and for the placing of riprap has been urgent for some years.

During the storm of Jan. 27-28 the bank back of the Hotel was further eroded and three walls built by owners of property between the two sections of the wall constructed by the Commonwealth, were completely destroyed. Requests were received from the town and from the property owners for adequate protection for this shore.

Repairs to existing walls, the building of concrete spur jetties and new walls, and the placing of riprap are provided for under the following contracts.



A contract was made on Apr. 25, 1933, with Tocci Bros. for building about 265 linear feet of concrete sea wall and five concrete jetties at Warrens Cove, Plymouth, at the following contract prices; for furnishing material and constructing the sea wall, \$8.50 for each cubic yard of concrete measured in the completed work; for furnishing materials and constructing five concrete jetties, \$8.50 for each cubic yard of concrete measured in the completed work. These structures were completed June 3, 1933, at a contract cost of \$5,170.94. Toward this cost contributions amounting to \$3,000 were made by the owners of property benefiting by the protection afforded by the work.

On May 16, 1933, a contract was made with Arthur K. Finney to furnish and place about 4,200 tons of stone riprap and chips for shore protection, to make repairs to an existing concrete sea wall and to build two concrete jetties, at the following contract prices: for each ton of stone riprap or chips in place in the completed work, \$1.82; for each cubic yard of concrete in place in concrete wall, jetties or footings, \$8. Toward the cost of this project a contribution of \$2,500 has been made by the town. The work is now in progress.

Amount expended during the year, \$8,949.51. Total expenditure to Dec. 1, 1933, \$34,241.86.

#### WEST CHOP, TISBURY

The work of building stone jetties under contract of Aug. 16, 1932, with Joseph W. Nickerson, was completed Dec. 7, 1932, at a contract cost of \$4,175.48.

The low price secured by the Department for furnishing and placing stone riprap and granite chips in the work allowed the extension of the protection by the building of two additional stone jetties westerly of those originally proposed. The five jetties have been of much benefit in checking erosion, but have been somewhat damaged by the winter storms. The protective work needs to be extended farther to the west and repairs should be made to the present jetties.

Amount expended during the year, \$1,394.32. Total expenditure to Dec. 1, 1933, \$5,116.07.

#### WINTHROP BREAKWATER

By Chapter 256 of the Acts of 1932 the Department is authorized for the purpose of protecting Winthrop Shore Drive and other shore property in Winthrop, to construct a breakwater about 1,000 feet easterly of the shore or in such other location as it may deem advisable, at an expenditure of not more than \$150,000. The statute provides that no work shall be begun until the Town has contributed and paid into the State Treasury the sum of \$25,000.

The contribution required from the Town was received in May, 1933, and on June 27, 1933, a contract was made with the Merritt-Chapman & Scott Corporation for building a stone breakwater in Broad Sound off Winthrop Shore Drive in the town of Winthrop at a contract price of \$2.22 for each ton of stone riprap furnished in place in the completed work. Under this contract work was completed Nov. 30, 1933, at a contract cost of \$146,521.33.

Three sections of stone breakwater, about 1,000 feet easterly from the shore, have now been built, the two northerly sections to a length of about 300 feet each, and the southerly one to a length of about 240 feet. Gaps about 100 feet wide at the mean high water line have been left between these sections in the expectation that the effectiveness of the structures will not be diminished while the cost has been lessened. If it seems advisable later, these gaps can be filled by building connecting structures.

The present breakwater provides for less than one-half the length

of shore needing protection. It is hoped that funds will be made available during the coming year to extend the structure.

Amount expended during the year, \$11,279.49. Total expenditure to Dec. 1, 1933, \$208,861.53.

#### WITCHMERE HARBOR, HARWICH

A contract was made Apr. 25, 1933, with the Saybrook Dredging Company for dredging the entrance channel to Witchmere Harbor to a depth of 6 feet at mean low water and a width of 40 feet on the bottom with increased width at the harbor end, at a contract price of 56 cents per cubic yard measured in place for dredging and disposing of the excavated material on marsh and flats by the hydraulic process, including the construction of necessary dikes and sluices.

While this dredging was going on the contractor offered to extend the channel through the two outer shoals in Nantucket Sound at an additional price of \$1,000. This offer was accepted by the Department. The entire project was completed June 29, 1933, at a contract cost of \$5,888.79. Toward this cost a contribution of \$2,500 has been made by the town of Harwich.

Amount expended during the year, \$6,391.54. Total expenditure to Dec. 1, 1933, \$69,942.75.

#### Miscellaneous

##### GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Blackmore's Pond, Wareham; Cedar Pond, Carver; Grass Pond, Harwich; Great Pond, Otis; Lake Quinsigamond, Worcester and Shrewsbury; Lake Tashmoo, Tisbury; Lake Winthrop, Holliston; Lead Mine Pond or Quassac Lake, Sturbridge; Long Pond, Harwich; Mill Ponds, Brewster; Nippinickett Pond, Bridgewater; Nutting Pond, Billerica; Oldham Pond, Hanson; Run Pond, Barnstable; Silver Lake, Pittsfield; Silver Lake, Wilmington; Snipatuit Pond, Rochester; South Pond, Barnstable; Whalom Lake, Lunenburg.

Surveys were made this year of the following great ponds:

##### *Blackmore Pond, Wareham*

Area at time of survey	45.36 A.
This pond may be drawn to an area of under license No. 832 approved by the Department of Public Works Sept. 28, 1927.	42.00 A.
Maximum depth	23.7 ft.

##### *Cliff Pond, Brewster*

Area at time of survey	201.19 A.
Maximum depth	94 ft.

##### *Fawn Pond, Plymouth*

Area at time of survey	46.63 A.
Area of natural pond	38.21 A.
Maximum depth	16.5 ft.

(Area at time of survey reported in 1932)



*Flax Pond, Brewster*

Area at time of survey	51.44 A.
Maximum depth	75 ft.

*Long Pond, Rochester*

Area at time of survey	33.84 A.
Depth note determined	

*Lower Mill Pond, Brewster*

Area at time of survey	52.07 A.
Area Natural Pond	37.99 A.
Maximum depth	13.0 ft.

*Musquashiat Pond, Scituate*

Area at time of survey	73.99 A.
Maximum depth	3.9 ft.

The height of water in this pond is affected to some extent by tide water and the water is brackish.

*Snipatuit Pond, Rochester*

Area at time of survey	704.9 A.
Pond contains three islands.	
Gull Island Area	0.33 A.
Low Bush Island Area	0.85 A.
High Bush Island Area	0.62 A.
These areas are not included in pond area.	
Depth not determined.	

*Upper Mill Pond, Brewster*

Area at time of survey	254.67 A.
Area natural pond	254.67 A.
Maximum depth	34.4 ft.

Amount expended during the year, \$3,696.37. Total expenditure to Dec. 1, 1933, \$29,029.71.

## ACCESS TO GREAT PONDS

During the year one petition relative to access to a great pond has been heard under the provisions of Chapter 453 of the Acts of 1923.

On Dec. 14, 1932, public hearing was held before the Joint Board upon a petition of ten citizens of the Commonwealth for the establishment of a right of way to Jordan Pond in Shrewsbury and Worcester. At this hearing the petitioners, at the request of their attorney, were granted leave to withdraw.

By Chapter 180 of the Acts of 1933, the County Commissioners of Berkshire County were authorized to lay out a right of way in the town of Sandisfield to Lake Marguerite, also known as Simon pond, in said town for public access to said Lake, in accordance with plans approved by the Department of Public Works. Plans submitted by the County Commissioners were approved by the Department under date of Nov. 24, 1933.

## PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,810 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand, the barren

dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Sand dunes have been covered with brush; 30,000 native pines on the sod transplanted, and 150,000 seedling of Scotch and Austrian pines and 50 truck loads of bayberry planted.

Minor repairs have been made in replacing sod and in filling at the dike at Race Run.

The sum of \$101.05 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying areas on these lands.

Amount expended during the year, \$4,700. Total expenditure to Dec. 1, 1933, \$166,634.58.

#### STATE BOUNDARY LINES

During the year about one and one half miles of the Massachusetts New Hampshire State line was relocated and two new monuments set in concrete.

#### TOWN BOUNDARY LINES

During the year several town boundary atlases were corrected and sold but no field work was done.

#### CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$4,000.

During the year several of the stream gauging stations were rebuilt and improved, but the cost of this work was paid from Federal Funds.

#### RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation stations were determined and permanently marked on the ground and the geographical positions furnished to the Land Court: 20 stations in Barnstable; 5 stations in Plymouth; 4 stations in Nantucket.

#### LICENSES AND PERMITS

During the year 99 licenses were granted for work to be done in tide water, great ponds, Connecticut River and Merrimack River and 108 permits for miscellaneous purposes. The Department also approved 106 permits granted by cities and towns for the construction and maintenance of fish weirs in tide waters.



EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR,  
1859 — 1933, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1932</i>	<i>1933</i>	<i>Total</i>
Boston Harbor	\$1,615,209 17 <sup>1</sup>		
Maintenance of Property		\$883.37	
Dredging and filling		30,969 69	
Special appropriations		71,760 01	\$1,718,822 24
Commonwealth Flats, East Boston	3,093,326 83 <sup>2</sup>	—	3,093,326 83
Commonwealth Flats, South Boston	4,892,123 69	—	4,892,123 69
Castle Island	742,204 91		
Dredging and filling		981.50	
Maintenance of Property		578.50	743,764 91
Commonwealth Pier No. 5, South Boston:			
Construction	4,014,790 45	—	4,014,790 45
Maintenance	687,511 36	36,955 11	724,466 47
Dredging	22,050 36	3,607 04	25,657 40
Operation and Supervision	1,657,942 31	101,319 54	1,759,261 85
Commonwealth Pier No. 1, East Boston:			
Construction	1,199,703 23	—	1,199,703 23
Operation and Supervision	120,247 69	6,731 57	126,979 26
Maintenance	19,917 15	1,467 97	21,385.12
Commonwealth Pier No. 6, South Boston:			
Construction	1,092,149 06	—	1,092,149 06
Maintenance	51,937 90	—	51,937 90
Dry Dock	3,169,651 15 <sup>3</sup>	—	3,169,651 15
Hayward Creek	385,979 61 <sup>4</sup>	—	385,979 61
Mystic River	429,632 95 <sup>5</sup>	770.60	430,403 55
Malden River	32,804 54 <sup>6</sup>	198.30	33,002 84
Chelsea Creek	60,561 88	295 15	60,857 03
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property (in addition to maintenance items listed above)	364,144 80	11,913 52	376,058 32
	<u>\$23,705,102 14</u>	<u>\$268,431 87</u>	<u>\$23,973,534 01</u>

<sup>1</sup> Contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921 . . . \$4,000 00  
By Bethlehem Ship Building Corporation in 1930 . . . 10,000 00

<sup>2</sup> Appropriated by City of Boston in 1926 . . . 10,000 00

<sup>3</sup> Additional amount paid by State Treasurer from Development of the Port of Boston  
Loan Sinking Fund in settlement of claims . . . 17,877 73

<sup>4</sup> Contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building  
Corporation . . . 38,600 00  
Paid by State Treasurer for land taking . . . 3,725 27

<sup>5</sup> Contribution by Merrimac Chemical Company  
in 1920 . . . 15,000 00  
in 1922 . . . 4,182 50

Contribution by Beacon Oil Company in 1920 . . . 50,000 00

<sup>6</sup> Expended by United States Government . . . 31,000 00  
Contribution by Standard Oil Company of New York in 1922 . . . 600 00

**EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS  
AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION  
OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS,  
FROM 1893 TO 1933, INCLUSIVE**

<i>Locality and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Cottage Park Channel, Winthrop, dredging	\$6,250.00	\$37,967 29
Dorchester, easterly shore, dredging and vey	1,000 00	210,767.61
Harbor View, dredging		146 00
Hingham Harbor, dredging	6,500 00	41,595 12
Houghs Neck, Quincy, dredging	7,500 00	46,088 31
Island End River, Everett, survey		264 10
Jeffries Point Channel, dredging		4,563 93
Mystic River (near Lawrence and Wiggin Wharf) dredging		5,927 70
Neponset River, dredging	10,000 00	109,401 63
Old Harbor Cove, dredging		10,520 48
Orient Heights Channel, dredging		45,412 38
Pemberton Point, Hull, breakwater	60,000 00	90,520 98
Pleasant Park Yacht Club Channel, dredging	3,000 00	16,241 49
Point Allerton, Hull, sea wall	50,000 00	75,127 05
Point Shirley, Winthrop		3,713 37
Quincy Bay, dredging	10,150 00	84,162 47
Shirley Gut, Boston and Winthrop, dredging		2,110 96
South Boston, Southerly Shore, dredging		129,542 08
Stony Beach, Hull, sea wall		12,556 58
Town River, Quincy, survey and dredging	16,050 00	57,663 25
Weir River, Hull, dredging	45,000 00	205,336 48
Wessagusset Channel, dredging		815 20
Weymouth Fore River, dredging	8,250 00	70,084 69
Winthrop Harbor Channels, dredging	17,192 00	73,984 22
	<hr/> \$240,892 00	<hr/> \$1,334,513 37

**EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK  
FROM DECEMBER 1, 1932 TO NOVEMBER 30, 1933**

<i>Location and Character of Work</i>	Contributions	Expenditures
Allens Harbor, Harwich, jetty repairs	\$6,500 00	\$12,438 63
Bass River, Dennis and Yarmouth, survey	—	31.60
Brant Rock, Marshfield, sea walls and riprap	—	14,692.35
Cape Cod Canal Pier, Bourne, construction	—	87,469 35
Cape Cod Canal Pier, Bourne, operation and maintenance	—	2,135 46
Cape Poge, Edgartown, survey	—	215 00
Connecticut River, Hadley, dike construc- tion	2,000 00	3,214 09
Connecticut River, Hatfield, survey	—	72 91
Conservation of Waters	—	4,000 00
Cotuit Harbor, Cotuit, survey	—	260 97
Cuttyhunk Harbor, Gosnold, dredging and jetty repairs	1,000 00	12,846 93
Dennisport, stone jetty	600 00	884 95
East Bay, Osterville and Barnstable, sur- vey	—	45 52



<i>Location and Character of Work</i>	<i>Contributions</i>	<i>Expenditures</i>
Ellisville Harbor, Plymouth, jetty repairs	—	499 40
Falmouth Inner Harbor, dredging entrance channel	2,000 00	3,883 37
Geological Survey Trust Fund	480 00	2,709 90
Gloucester Harbor, Gloucester, survey	—	16 08
Great Ponds, survey	—	3,696 37
Green Harbor, Marshfield, stone riprap	—	1,769 01
Harwich Beach, shore protection	4,000 00	197 18
Herring River, Harwich, dredging and filling	300 00	2,690 61
Herring River, Wellfleet, dike	—	4,811 12
Hull, sea walls, concrete jetties and sea wall repairs	—	2,670 29
Hyannis Harbor, Barnstable, bulkhead and dredging	—	29,246 94
Improvement of Rivers and Harbors, general expenses	—	7,573 62
Ipswich River, Ipswich, survey	—	1,007 52
Lagoon Pond, Tisbury and Oak Bluffs, dredging and jetty	—	9,379 86
Lake Anthony, Oak Bluffs, stone riprap	500 00	850 23
Lewis Bay, Barnstable, survey	—	69.60
Long Beach, Rockport, riprap and sea wall repairs	1,700 00	4,790 25
Manchester Harbor, Manchester, survey	—	131 29
Marshfield-Duxbury, survey	—	358 61
Nahant, riprap	15,000 00	2,296 28
Namequoit River and Pleasant Bay, Chatham, riprap	—	1,861 03
New Bedford State Pier, operation and maintenance	—	5,420 89
New Bedford State Pier, construction and alterations	—	8,173 74
Nobscusset Harbor, Dennis, stone jetties	1,200 00	433 72
Oak Bluffs, bulkhead and sea wall repairs	1,500 00	7,576 01
Onset Bay, Wareham, survey	—	257 11
Plymouth Memorial Park, maintenance	—	3,407 07
Province Lands, Provincetown, reclamation	—	4,700 00
Sagamore Beach, Bourne, survey	—	78 85
Salisbury Beach, survey	—	1,690 05
Scituate, shore protection	37,500 00	
First and Second Cliffs, riprap	—	79 35
General surveys, Scituate	—	160 49
Glades, Scituate, sea wall	—	8,013 46
Humarock Beach, survey	—	38 23
North Scituate, Surfside, sea wall repairs	—	3,313 42
Sand Hills, concrete ramp	—	239 07
Sand Hills to Shore Acres, sea wall and jetties	—	17,626 47
Shore Acres, Scituate, wall and riprap	—	12,913 13
Third Cliff, Scituate, riprap	—	6,991 94
Sengekontacket Pond, Oak Bluffs, survey	—	104 28
Shirley Gut, survey	—	104 01
Singing Beach, Manchester, survey	—	81 80
Stage Harbor, Chatham, survey	—	136 52
Truro Beach, head of Pamet River, survey	—	71 74
Waquoit Bay, Falmouth and Mashpee, bulkhead and jetties	—	365 13

<i>Location and Character of Work</i>	Contributions	Expenditures
Warrens Cove, Plymouth, riprap, jetties and sea walls	5,500 00	8,949 51
Water Conservation—see Conservation of Waters		
West Bay, Barnstable and Osterville, survey	—	89 95
West Chop, Tisbury, stone jetties	—	1,394 32
West Dennis Beach, stone jetty	750 00	55 85
West Harwich Beach, Harwich, stone jetty	—	873 41
Winthrop Shore, Winthrop, stone breakwater	25,000 00	111,279 49
Witchmere Harbor, Harwich, dredging entrance channel	2,500 00	6,391 54
	<hr/> \$108,030 00	<hr/> \$429,826 87

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1933, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging	—	\$119,810 10
Allens Harbor, Harwich, shore protection, dredging, riprap and jetties	\$18,927 50	51,146 43
Allens Pond, Dartmouth, survey	—	195 95
Angle Tree Monument, reservation	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, survey, dredging and stone breakwater	—	55,786 05
Barnstable Harbor, Barnstable, dredging	7,500 00	30,693 16
Bass River, Beverly, dredging	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, jetties, dredging and survey	22,595 00	182,445 07
Beach Street, Scituate—See Scituate.		
Beverly Harbor, Beverly, dredging	—	50,000 00 <sup>1</sup>
Brant Rock, Marshfield, shore protection	111,503 66	229,665 64
Brewster, Skaket Inlet, survey	—	617 19
Bucks Creek, Chatham, jetties, survey and dredging	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey	—	166 11
Cape Cod Canal Pier, Bourne, construction	—	258,362 67
Cape Cod Canal Pier, Bourne, operation and maintenance	—	2,135 46
Cape Poge, Edgartown, cut through beach, jetties and riprap	16,500 00	42,905 09
Cataumet Harbor—See Megansett Harbor.		
Cedar Point, Scituate—See Scituate.		
Centerville River, Barnstable, dredging	19,711 50	44,329 77
Chatham, riprap and surveys	10,500 00	19,813 19
Cohasset Harbor, Cohasset, breakwater and dredging	42,691 88	116,191 93
Concord River, Billerica, removing boulders	150 00	1,664 59

<sup>1</sup> Expended by United States Government.



<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Connecticut River, investigation of navigation and surveys	—	8,878 96
Connecticut River, Agawam, protective work	—	18,814 42
Connecticut River, Chicopee, survey, wall and riprap	640 00	25,789 02
Connecticut River, Hadley, diversion wall and riprap	7,000 00	121,955 04 <sup>2</sup>
Connecticut River, Hatfield, dikes and riprap	1,000 00	51,311 52
Connecticut River, Holyoke, dredging and protective work	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers	—	1,195 32
Connecticut River, Northampton, riprap	—	1,524 20
Connecticut River, Northfield, riprap	—	9,028 90
Connecticut River, South Hadley, wall	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, protective work	—	12,510 08 <sup>3</sup>
Conservation of Waters, investigation	—	84,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs	13,183 38	83,504 82
Cuttyhunk Harbor, Gosnold, jetties and dredging	10,000 00	83,935 78
Deacons Pond Harbor — See Falmouth Inner Harbor		
Dennisport, stone jetty	600 00	884 95
Duxbury Bay and Harbor, dredging	27,000 00	92,653 35
East Bay, Osterville, jetties, dredging and removing scows	10,000 00	70,969 75
Edgartown Harbor, Edgartown, survey and cut in beach	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs	—	20,673 58
Essex County Beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33 <sup>4</sup>
Fall River Harbor, improvement	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap	22,210 04	70,667 71
Falmouth Inner Harbor, dredging, jetties, wall and riprap	33,500 00	154,279 63
Falmouth, Menauhant Shore, bulkheads, jetties and riprap	3,100 00	6,075 33
First and Second Cliffs, Scituate — see Scituate		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Geological Survey Trust Fund	3,000 00	3,000 00
Glades, North Scituate — See Scituate.		
Gloucester Fish Pier	—	396 91
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and removing ledges	15,000 00	148,802 79

<sup>2</sup> From 1888 inclusive.<sup>3</sup> From 1891 inclusive.<sup>4</sup> \$5,000 expended by United States Government.

<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Great Head, Winthrop — See Winthrop Shore		
Great Ponds, survey	—	29,029 71
Green Harbor, Marshfield, jetties, dredging and survey	42,500 00	167,238 38
Gun Rock Point, Hull, breakwater and sea wall repairs	16,135 41	77,939 33
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Harwich Beach, Harwich, shore protection	4,000 00	197 18
Harwich Shore, near Chatham Line, stone jetty	350 00	1,206 75
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and riprap	36,400 00	134,720 58
Herring River, Wellfleet, dikes and ditches	10,000 00	39,320 50
Hoosac River, North Adams, excavation and survey	—	21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, sea wall and jetties	8,882 06	42,093 96
Humarock Beach, Scituate — See Scituate.		
Hyannis Harbor, bulkhead and dredging	21,750 00	40,494 50
Hyannisport, Barnstable, survey and breakwater	2,500 00	65,017 76
Improvement of Rivers and Harbors, general expenses	—	55,494 21
Ipswich River, Ipswich, jetty, wall, riprap and dredging	3,800 00	60,087 07
Kings Beach, Swampscott, removal of obstruction	—	166 41
Lagoon Pond, Tisbury and Oak Bluffs, dredging and jetty	13,500 00	25,855 90
Lake Anthony, Oak Bluffs, jetties and dredging	16,000 00	98,261 74
Lake Quannapowitt, Wakefield, investigation	—	345 32
Lake Tashmoo, Tisbury, survey	—	432 88
Lewis Bay, Barnstable, survey and dredging	18,809 29	66,874 33
Little Harbor, Cohasset, survey	500 00	1,476 77
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Long Beach, Rockport, sea wall	27,700 00	57,306 56
Lynn Harbor, Lynn, anchorage basin, survey and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	165,527 54
Manchester Harbor, Manchester, survey, jetties and dredging	83,000 00	189,838 88
Marshfield-Duxbury, survey	—	358 61
Mattapoissett Harbor, survey	—	255 48
Megansett Harbor, Bourne and Falmouth, dredging	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, jetties, dredging, sea wall and riprap	2,700 00	130,243 43
Merrimack River, investigation	—	1,208 50



<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Mill River, Gloucester, survey and dredging	300 00	24,899 59
Mitchells River, Chatham, survey and dredging	6,000 00	23,113 92
Monument Beach, Bourne, survey	—	326 40
Nahant, survey and riprap	15,000 00	2,378 43
Namequoit River and Pleasant Bay, dredging	5,500 00	30,390 65
Nantucket, survey of Sesachacha Pond	—	110 66
Nantucket Harbor, dredging	5,000 00	58,982 52
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, pier shed and dredging	13,446 74 <sup>5</sup>	558,593 16
New Bedford State Pier, operation and maintenance	—	73,528 29
Newburyport Harbor, survey	—	115 97
Nobscusset Harbor, Dennis, breakwater, dredging, riprap and jetties	3,150 00	41,818 94
North River, Marshfield, survey and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	704 52
North Scituate — See Scituate.		
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties	54,000 00	148,675 58
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging	1,000 00	15,553 00
Orleans, survey	—	104 18
Palmers Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging and repairing jetties	1,200 00	198,010 32
Paskamansett River, Dartmouth, dredging and jetty	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey	—	904 80
Pleasant Bay, Chatham, dredging	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	92,794 55 <sup>6</sup>	324,565 02
Plymouth Memorial Park, maintenance	—	48,056 48
Point Shirley, Winthrop — See Winthrop Shore		
Poponessett Bay, Barnstable and Mashpee, dredging	—	46,252 33
Powow River, Amesbury, dredging channel and riprapping wall	—	502 94
Province Lands, Provincetown, reclamation	—	166,634 58
Provincetown Harbor, shore protection	75 00	28,730 81
Quamquisset Harbor, Falmouth, survey	—	710 31
Quansett Harbor, Orleans, survey and dredging	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier	—	275 00
Revere, stone breakwater	—	60,397 93

<sup>5</sup> Paid by Surety Company<sup>6</sup> \$57,000 expended under direction of United States Government.

<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Rock Harbor, Orleans, dredging	2,400 00	20,832 51
Rockport Harbor, Rockport, dredging and removing rocks	4,750 00	32,897 46
Sagamore Beach, Bourne	—	78 85
Salem Harbor, Salem, survey	—	1,509 92
Salisbury Beach, survey	—	4,754 27
Salt Pond River, Eastham, survey	—	210 11
Salters Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills Scituate — See Scituate.		
Sandwich Harbor, Sandwich, dredging channel, riprap and jetties	—	80,579 84
Saugus River, Lynn and Saugus, survey and dredging	2,000 00	20,845 17
Scituate, shore protection	75,000 00	
Beach Street, Scituate, wall and break- water	17,333 52	34,782 50
Cedar Point, Scituate, wall and break- water	21,446 64	41,298 70
First and Second Cliffs, Scituate, wall and riprap	2,797 92	19,553 12
Glades, North Scituate, filling and rip- rap	13,250 78	38,751 42
Humarock Beach, Scituate, survey, wall and jetties	37,816 38	83,583 74
North Scituate, Surfside, sea wall, jet- ties and riprap	2,194 68	33,144 84
Sand Hills, Scituate, wall and jetties	4,511 26	34,031 13
Third Cliff, Scituate, riprap and survey	75,193 10	134,770 21
General surveys at Scituate	—	543 73
Shore Acres, Scituate, riprap	—	12,913 13
Sand Hills to Shore Acres, Scituate, sea wall, jetties and riprap	—	17,626 47
Scituate Harbor, dredging and surveys	53,300 00	206,011 94
Scorton Harbor, Sandwich, jetty and dredg- ing	500 00	17,774 34
Seapuit River, Barnstable, dredging	13,000 00	25,088 55
Sengekontacket Pond, Oak Bluffs, survey	—	104 28
Sesuit Harbor, Dennis, jetty	1,500 00	24,555 10
Shirley Gut, survey	—	201 06
Singing Beach, Manchester, survey	—	81 80
Sippican Harbor, Marion, survey	—	615 66
Smiths Cove, Gloucester, survey and dredging	3,875 00	13,466 16
South Harwich, stone jetties and riprap	2,500 00	3,701 31
South River, Marshfield and Scituate, sur- vey	—	724 85
South River, Salem, dredging	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	203 42
Stage Harbor, Chatham, dikes and survey	—	11,792 15
Steam Gauging — See Conservation of Waters		
Swampscott, survey	—	103 46
Taunton-Brockton, waterway investigation	—	5,278 18
Taunton River, survey and dredging	42,500 00	31,561 95



<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Taunton River-Boston Harbor Canal, survey	—	9,932 75
Taunton River-Massachusetts Bay Canal, survey	—	11,786 71
Truro Beach, survey	—	71 74
Vineyard Haven Harbor, Tisbury, breakwater and dredging	1,000 00	45,518 25
Vineyard Haven Harbor, repairing sea wall	2,380 50	11,945 01
Waquoit Bay, Falmouth, breakwater, wall, bulkhead and dredging	17,500 00	98,438 91
Wareham River, Wareham, survey and dredging	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and survey	15,213 98	34,241 86
Watch Hill, Chatham, survey and riprap	—	14,968 75
Water Conservation — See Conservation of Water		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable and Osterville, dredging, jetties and riprap	16,128 07	114,607 52
West Chop, Tisbury, stone jetties	2,500 00	5,116 07
West Dennis Beach, stone jetty	750 00	55 85
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater	11,473 75	63,520 95
West Harwich Beach, Harwich, shore protection	6,000 00	26,717 00
Western Avenue sea wall, Gloucester — see under Gloucester		
Westfield River, Westfield, survey and jetties	—	6,037 29
Westport Harbor, Westport, jetty extension and repairs	—	21,928 88
Wild Harbor, Falmouth — jetty and dredging	15,000 00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work	65,500 00	208,861 53
Witchmere Harbor, Harwich, jetties and dredging	6,000 00	69,942 75
Woods Hole, Great Harbor, Falmouth, dredging	1,500 00	6,968 86
Wrecks, removal from tide water	—	20,283 69
Yarmouthport Harbor, survey	7,000 00	95,977 37
	<hr/>	<hr/>
	\$1,644,194 63	\$8,396,959 26

#### FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1933, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1. — *Localities at Present Under Improvement*  
(Compiled from the Annual report of the Chief of Engineers, U. S. Army,  
for the fiscal year ending June 30, 1933)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor . . . . .	\$506,298 13	\$506,748 13
Gloucester Harbor . . . . .	545,575 63	545,575 63
Lynn Harbor . . . . .	782,017 25	790,775 89
Boston Harbor . . . . .	13,594,731 57	13,765,265 10
Plymouth Harbor . . . . .	421,184 80	421,184 80***
Cape Cod Canal . . . . .	12,466,263 56	12,851,195 56
Operating and Care, Cape Cod Canal	1,286,217 78	1,300,755 28
Pollock Rip Shoals . . . . .	1,367,037 25	1,318,074 66
Cross Rip Shoals, Nantucket Sound .	34,822 14	41,967 20
New Bedford and Fairhaven Harbor .	1,327,418 91	1,337,848 53
Fall River Harbor . . . . .	778,626 35	819,282 69
Taunton River . . . . .	323,484 50	429,775 86
<b>Total</b> . . . . .	<b>\$33,433,677 87</b>	<b>\$34,128,449 33</b>

\*\*\*Exclusive of \$108,400 contributed funds.

TABLE NO. 2. — *Localities in Which Work is Not Now in Progress*  
(Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River . . . . .	\$404,466 72	\$404,466 72
Malden River . . . . .	149,950 00	149,950 00****
Sandy Bay, Cape Ann, Harbor of Refuge . . . . .	1,941,478 00	1,941,478 00
Bass River . . . . .	20,150 34	20,150 41
Buzzards Bay Harbor . . . . .	2,500 00	2,500 00
Canapitset Channel . . . . .	5,312 54	9,800 00
Chatham Harbor . . . . .	12,171 36	13,732 79
Cohasset Harbor . . . . .	10,000 00	10,000 00
Duxbury Harbor . . . . .	37,000 00	37,000 00
East Dennis Breakwater . . . . .	7 57	1,500 00
Edgartown Harbor . . . . .	25,000 00	25,000 00
Essex River . . . . .	30,000 00	30,000 00
Hingham Harbor . . . . .	38,316 58	38,316 58
Hyannis Harbor . . . . .	221,267 07	221,267 07
Ipswich River . . . . .	5,617 91	5,617 91
Kingston Harbor . . . . .	8,940 09	10,000 00
Little Harbor, Woods Hole . . . . .	18,000 00	18,000 00
Manchester Harbor . . . . .	23,985 57	23,985 57
Marblehead Harbor . . . . .	833 42	1,900 00
Martha's Vineyard (Edgartown Harbor)	30,000 00	30,000 00
Powow River . . . . .	50,940 72	51,000 00
Rockport Harbor . . . . .	91,229 25	91,229 25
Town River . . . . .	37,577 41	37,557 41
Vineyard Haven Harbor . . . . .	55,387 35	55,387 35
Wareham Harbor . . . . .	95,997 30	96,236 00
Wellfleet Harbor . . . . .	11,365 57	16,000 00
Westport Harbor and River . . . . .	3,000 00	3,000 00
Winthrop Harbor . . . . .	9,000 00	9,000 00
Woods Hole Channel . . . . .	343,599 92	344,000 00

\*\*\*\*Exclusive of \$ 62,000 contributed funds.



<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Beverly Harbor . . . . .	246,690 41	246,690 41*
Salem Harbor . . . . .	107,956 57	107,956 57
Mystic River . . . . .	306,684 84	306,684 84
Dorchester Bay and Neponset River .	128,176 44	128,176 44
Weymouth Fore River . . . . .	641,150 00	641,150 00**
Weymouth Back River . . . . .	27,000 00	27,000 00
Scituate Harbor . . . . .	126,590 98	126,590 98
Provincetown Harbor . . . . .	348,062 72	348,062 72
Harbor of Refuge at Nantucket . .	694,582 83	694,582 83
<b>Total . . . . .</b>	<b>\$6,309,989 48</b>	<b>\$6,324,989 85</b>

\*Exclusive of \$100,000 contributed funds

\*\*Exclusive of \$100,000 contributed funds

#### RECAPITULATION

	<i>Expenditures</i>	<i>Appropriations</i>
Total of Table No. 1 . . . . .	\$33,433,677 87	\$34,128,449 33
Total of Table No. 2 . . . . .	6,309,989 48	6,324,989 85
	<b>\$39,743,667 35</b>	<b>\$40,453,439 18</b>

#### EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1933

(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Boston Harbor proper* . . . . .	\$13,480,743 04	\$13,527,362 58

\* Including Chelsea Creek.





## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
269	Lagoon Pond—Oak Bluffs and Tisbury, — dredging and jetty.	Merritt-Chapman & Scott Corporation.	Aug. 23, 1932
312	Cape Cod Canal, Bourne, — construction landing pier and dredging.	Merritt-Chapman & Scott Corporation	Apr. 26, 1932
325	Hyannis Harbor, Lewis Bay, Barnstable, — timber bulkhead.	Thomas Whalen & Sons, Inc. . .	June 28, 1932
330	Hyannis Harbor, Lewis Bay, Barnstable, — dredging.	Saybrook Dredging Company . .	Aug. 9, 1932
332	West Chop, Tisbury, — shore protection by stone jetties.	Joseph W. Nickerson . . .	Aug. 16, 1932
335	Brant Rock, Marshfield sea wall . . .	A. Piatelli & Company. . .	Sept. 27, 1932
340	Gun Rock-Green Hill, Hull, — sea wall repairs.	Thomas Whalen & Sons, Inc.	Oct. 25, 1932
341	Warrens Cove, Plymouth, — repairs to sea wall, riprap and jetties.	A. K. Finney . . . . .	May 16, 1933
342	West Harwich Beach, — stone jetty. . .	Sidney W. Lawrence . . . . .	Nov. 9, 1932
343	Oak Bluffs — repairs to concrete sea wall	Merritt-Chapman & Scott Corporation	Nov. 29, 1932
344	Green Harbor, Marshfield, — riprap. . .	Thomas Whalen & Sons, Inc.. .	Dec. 27, 1932
345	Herring River, Harwich, — filling at property of Charles E. LeBuff. . . .	Arthur K. Finney . . . . .	Feb. 7, 1933
346	Allens Harbor, Harwich, — repairing jetties.	Joseph W. Nickerson . . . . .	Mar. 14, 1933
348	Pleasant Bay, Orleans shore. . . . .	Joseph W. Nickerson . . . . .	June 27, 1933
349	Long Beach, Rockport, — riprap. . . .	Thomas Whalen & Sons, Inc.. .	Apr. 25, 1933
350	Boston Harbor, — removal of hulks. . .	Bay State Dredging & Contracting Company	Apr. 4, 1933
351	Boston Harbor, — removal of hulks.. .	Roy B. Rendle & Company, Inc. .	Apr. 18, 1933
352	Warren's Cove, Plymouth sea wall and jetties.	Tocci Bros. . . . .	Apr. 25, 1933
353	Boston Harbor, — removal of hulks.. .	The Rendle Corporation . . . .	Apr. 25, 1933
354	Cape Cod Canal Pier, — retaining wall, stairs, ramp, etc.	Pasquale Construction Company, Inc.	May 2, 1933

## AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1933

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30 1933	Total paid to Nov. 30, 1933	Estimated amount of contract
Completed Dec. 21, 1932	For dredging and disposing of dredged material on marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 35 cents for each cubic yard measured in place. For removing and disposing of all boulders \$25. for each cubic yard. For each ton of riprap or stone chips furnished and placed in completed work, \$3.23.	\$ 8,983 78	\$ 24,101 16	\$ 23,770 00
Completed Mar. 25, 1933	Unit prices	59,349 05	215,450 95	200,618 00
Completed Dec. 10, 1932	For each linear foot of creosoted timber bulkhead constructed in place, \$11.90.	2,607 10	10,699 10	10,710 00
Completed May 13, 1933	For dredging and disposing of dredged material on marsh, flats and behind the bulkhead, by the hydraulic process, or other means, including the construction of necessary dikes, sluices and spillways and incidental work, \$.1889 for each cubic yard measured in place. For removing and disposing of all boulders, \$10. per cubic yard.	23,766 08	23,766 08	21,534 60
Completed Dec. 7, 1932	For furnishing and placing heavy stone riprap and granite chips in jetties, the sum of \$4.19 for each ton of 2000 pounds.	1,297 01	4,175 48	2,095 00
Completed Jan. 2, 1933	For furnishing material and constructing concrete sea wall, including all incidental work, \$6.65 for each cubic yard of concrete measured in place in the completed work.	5,012 09	8,643 15	6,650 00
Completed Dec. 29, 1932	For each cubic yard of concrete in place in the completed work, \$8.15.	1,095 22	1,095 22	896 50
In progress	For each ton of stone riprap or chips in place in completed work, \$1.82.	2,351 44	2,351 44	8,044 00.
	For each cubic yard of concrete in place in concrete walls, jetties or footings, \$8.00.			
Completed Dec. 17, 1932	For each ton of stone riprap furnished in place in the completed work \$3.12.	714 43	714 43	530 40
Completed Jan. 16, 1933	For furnishing material and constructing concrete sea wall, including excavation, backfill and all incidental work, \$13. for each cubic yard of concrete measured in place in completed work. For each ton of stone riprap furnished in place in completed work, \$3.75.	2,259 65	2,259 65	2,002 50
Completed Feb. 25, 1933	For each ton of stone riprap or chips furnished in place in the completed work, including all excavation, backfilling and incidental work, the sum of \$1.88.	1,341 43	1,341 43	1,128 00
Completed April 6, 1933	For furnishing and placing sand fill, including all incidental work, the lump sum of \$572.	572 00	572 00	572 00
Completed May 17, 1933	For each ton of riprap or stone chips furnished and placed in completed work, including all incidental work, \$3.19.	11,847 13	11,847 13	9,570 00
Completed July 28, 1933	For each ton of stone riprap furnished in place in completed work, including all excavation, back filling and incidental work, \$2.98.	1,747 41	1,747 41	1,490 00
Completed June 2, 1933	For each ton of riprap or stone chips furnished and placed in completed work, the sum of \$1.43.	3,134 74	3,134 74	2,860 00
Completed Apr. 17, 1933	For removal and disposal of hulks from Boston Harbor, Mystic River and Winthrop Harbor, as specified, the lump sum of \$2700.	2,700 00	2,700 00	2,700 00
Completed June 19, 1933	For removal and disposal of hulks as specified from property of Boston Port Development Co., Condor St., East Boston, the lump sum of \$3800. For pulling and disposing of piles as specified on property of Boston Port Development Co., Condor St., East Boston, the lump sum of \$600.	4,400 00	4,400 00	4,400 00
Completed June 3, 1933	For furnishing material and constructing concrete sea wall, including all excavation, backfilling, removing old walls and all incidental work, the sum of \$8.50 for each cubic yard of concrete measured in the completed work. For furnishing materials and constructing five concrete jetties, including all excavation, back filling and all incidental work, the sum of \$8.50 for each cubic yard of concrete measured in the completed jetties.	5,170 94	5,170 94	4,675 00
Completed July 12, 1933	For removal and disposal of hulks specified from Chelsea Creek, the lump sum of \$1800.	2,200 00	2,200 00	2,200 00
Completed June 29, 1933	Unit prices	1,737 75	1,737 75	1,663 25



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
355	Witchmere Harbor, — Harwich — dredging	Saybrook Dredging Company.	Apr. 25, 1933
356	Brant Rock, Marshfield, — concrete sea wall.	Corsetti and Arcese Co. . .	June 6, 1933
357	Dolphin A on Bird Island Anchorage Basin	M. & R. Construction Company .	June 13, 1933
358	Commonwealth Pier 5 — repairs to pile platform.	A. A. Hersey & Son Co. . .	June 6, 1933
359	New Bedford State Pier, — dredging docks and approaches.	J. S. Packard Dredging Company .	July 5, 1933
360	Cape Cod Canal Pier, — moveable gangways.	Waghorne-Brown Company . .	June 6, 1933
361	Winthrop Breakwater. . . . .	Merritt-Chapman & Scott Corpora- tion	June 27, 1933
362	Cape Cod Canal Pier, — building . .	Durso Construction Company .	June 6, 1933
363	Wollaston Dredging. . . . .	Bay State Dredging & Contracting Company	June 6, 1933
364	Commonwealth Pier 5, — dredging east berth.	Bay State Dredging & Contracting Company	Sept. 26, 1933
365	Cuttyhunk Harbor, — Gosnold. . . .	The Saybrook Dredging Company.	June 27, 1933
366	Cape Cod Canal Pier, — electric lighting .	Mass. Electric Construction Co. .	July 25, 1933
367	Chelsea Creek, East Boston, — removal of hulks.	John Forward . . . . .	Aug. 1, 1933
368	Dennis, — stone jetty at Dennisport. .	Sidney W. Lawrence . . . . .	Aug. 15, 1933
369	Shore Acres, Scituate, — riprap protection.	Henry N. Worthington . . . .	Sept. 5, 1933
370	Glades Sea Wall, — Scituate. . . . .	Thomas Whalen & Sons, Inc. .	Oct. 4, 1933

## AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1933

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30 1933	Total paid to Nov. 30, 1933	Estimated amount of contract
Completed June 29, 1933	For dredging and disposing of excavated material on marsh and flats by the hydraulic process, including the construction of necessary dikes and sluices, 56 cents for each cubic yard measured in place.	5,888 79	5,888 79	4,888 80
Completed Aug. 30, 1933	For furnishing material and constructing concrete sea wall, \$7.32 per cubic yard of concrete measured in completed work.	6,523 10	6,523 10	5,916 72
	For furnishing material and constructing reinforced concrete footing, \$8. per cubic yard of reinforced concrete measured in completed work.			
	For furnishing material and constructing concrete cap, backing and steel dowels, \$8.60 for each cubic yard of reinforced concrete in the completed work.			
	For each cubic yard of filling material furnished, delivered and measured in place in the completed work, \$.40 per cubic yard.	6,523 10	6,523 10	5,916 72
Completed July 26, 1933	For furnishing dolphin complete, including all incidental work, \$175.	175 00	175 00	175 00
In progress	Unit prices . . . . .	3,034 40	3,034 40	2,195 00
Completed Oct. 2, 1933	For dredging and disposing of dredged material 48 cents per cubic yard, scow measurement.	6,999 96	6,999 96	9,620 00
	For removing and disposing of boulders \$20. per cubic yard.			
Completed Aug. 31, 1933	For furnishing and erecting in place at Cape Cod Canal Pier two gangways complete and ready to operate, including all incidental work, the lump sum of \$2645.	2,820 00	2,820 00	2,645 00
Completed Nov. 30, 1933	For each ton of stone riprap furnished in place in the completed work, including all incidental work, \$2.22.	109,446 00	109,446 00	111,000 00
In progress	For the construction of building complete, including foundations, floors, outside platforms, plumbing, drains, cistern with allowances as specified, and all incidental work, the lump sum of \$21,378.	18,536 99	18,536 99	21,378 00
	For the substitution of 4-inch tile backing in side walls in place of 8-inch tile, as specified deduct \$378.			
	For omission of all plumbing fixtures, water pump and tank and all plumbing above floor level, deduct \$700.			
	For omission of floor specified in main shed, deduct \$1,000.			
Completed July 11, 1933	For dredging channel and basin and disposing of dredged material, 38 cents per cubic yard, scow measurement.	11,893 62	11,893 62	11,790 00
	For removing and disposing of all boulders \$10. for each cubic yard.			
In progress	For dredging and disposing of dredged material, 43 cents per cubic yard, scow measurement.	3,483 95	3,483 95	13,780 00
	For removing and disposing of boulders, \$20. per cubic yard.			
Completed Sept. 9, 1933	For dredging and disposing of excavated material on shore by hydraulic process, including construction of all necessary dikes and sluices, 23.8 cents for each cubic yard measured in situ.	9,160 70	9,160 70	9,000 00
	For removing and disposing of all boulders, \$10. for each cubic yard.			
Completed Oct. 24, 1933	For furnishing and installing complete, electric service as specified, \$1239.	1,098 30	1,098 30	1,239 00
In progress	For removal and disposal of steel hulk "Yankton", \$500.	2,465 00	2,465 00	3,400 00
	For removal and disposal of all hulks, wrecks, etc., as specified except steel hulk "Yankton", \$2900.			
Completed Oct. 14, 1933	For furnishing and placing stone riprap and granite chips in the jetty, \$3.12 for each ton of 2000 pounds.	856 60	856 60	936 00
Completed Nov. 11, 1933	For each ton of heavy stone riprap and chips furnished in place in the completed work, \$1.38.	3,838 40	3,838 40	6,900 00
Completed Nov. 24, 1933	For furnishing material and constructing reinforced cap and face of wall, \$10. for each cubic yard of concrete measured in completed work.	7,500 89	7,500 89	6,900 00
	For furnishing stone riprap and depositing it in place along concrete wall, \$1.65 per ton furnished and in place in completed work.			
	For removing and disposing of about 128 feet of old concrete wall, the lump sum of \$150.			



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
371	Commonwealth Pier 5, — Boston, — removal of wall and erection of fence on observation platform.	Waghorne-Brown Co. . . . .	Sept. 13, 1933
372	Commonwealth Pier 5, — Boston, — alterations to moveable gangway.	Waghorne-Brown Co. . . . .	Sept. 13, 1933
373	Falmouth Inner Harbor, — dredging. .	Bay State Dredging & Contracting Co.	Sept. 5, 1933
374	Oak Bluffs, — concrete footing under sea wall north of steamboat wharf.	Pasquale Construction Company, Inc.	Sept. 5, 1933
375	Boston Harbor, — removal of hulks .	M. & R. Construction Company	Aug. 29, 1933
376	Shore Acres, Scituate, — sea wall of concrete, jetties and riprap.	Thomas H. Hannaford . . . .	Sept. 12, 1933
377	Third Cliff, Scituate, — stone riprap. .	Raymond A. Bergesson . . . .	Sept. 5, 1933
378	Scituate, Shore Acres, — concrete sea wall and stone riprap.	A. K. Finney . . . . .	Sept. 5, 1933
379	Lake Anthony, Oak Bluffs, stone riprap. .	Joseph W. Nickerson . . . . .	Sept. 19, 1933
380	Nobscussett Harbor, Dennis, — stone jetties westerly of harbor.	Sidney W. Lawrence . . . . .	Sept. 19, 1933
381	Pleasant Park Channel, Winthrop, — dredging.	Bay State Dredging & Contracting Co.	Nov. 28, 1933
382	Boston Harbor, — dredging adjacent to Pier 1 of N.Y., N.H.&H.R.R. Co. . . . .	Bay State Dredging & Contracting Co.	Sept. 26, 1933
383	Nahant Shore, Nahant, — riprap protection	M. McDonough Co. . . . .	Oct. 10, 1933
384	Commonwealth Pier 5, — painting exterior steel work.	Louis P. Steensen . . . . .	Sept. 20, 1933
385	Mystic River, — dredging above Malden Bridge.	Bay State Dredging & Contracting Co.	Oct. 10, 1933
386	West Dennis Beach, — stone jetty. . . .	Sidney W. Lawrence . . . . .	Nov. 28, 1933
387	Commonwealth Pier 5, — installation of steel sash, replacement of glass, and repairs to sash.	Maurice M. Devine . . . . .	Nov. 23, 1933
390	East Boston Pier 1, — steel sliding cargo doors.	Waghorne-Brown Company . . . .	Nov. 28, 1933
392	Commonwealth Pier 1, — East Boston, — repairs to platforms and shed.	Murray Engineering Company . .	Nov. 28, 1933
393	New Bedford State Pier, — repairs to plaster walls and doorways and new windows and doors.	National Gunitite Contracting Co. .	Nov. 28, 1933

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1933

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30 1933	Total paid to Nov. 30, 1933	Estimated amount of contract
Completed Nov. 10, 1933	Lump sum of \$322.	273. 70	273 70	322 00
Completed Nov. 10, 1933	Lump sum of \$1044.	887 40	887 40	1044 00
Completed Oct. 4, 1933	For dredging entrance channel and disposing of dredged material 47 cents per cubic yard, scow measurement.	3,611 48	3,611 48	3,592 00
	For removing and disposing of boulders \$20. per cubic yard.			
Completed Oct. 11, 1933	For furnishing material and constructing concrete footing \$23. for each cubic yard of concrete measured in place in the completed work.	1,139 18	1,139 18	690 00
In progress	Lump sum of \$1495.	1,016 60	1,016 60	1,495 00
In progress	For furnishing material and constructing concrete sea wall and jetties, \$7.79 for each cubic yard of concrete measured in completed work.	16,633 35	16,633 35	31,940 40
	For furnishing and placing heavy stone riprap for apron \$2.243 for each ton in completed work.			
In progress	For each ton of riprap or stone chips furnished and placed in the completed work, \$1.90.	6,460 00	6 460 00	6,650 00
In progress	For furnishing material and constructing the concrete sea wall, including all excavation, backfilling forms and removing old bulkhead, including all incidental work the sum of \$7.82 for each cubic yard of concrete measured in the completed work.	8,069 46	8,069 46	14,936 80
	For furnishing and placing heavy stone riprap for apron including excavation, backfilling, chinking including all incidental work, the sum of \$1.92 for each ton of heavy stone riprap in the completed work.			
Completed Oct. 24, 1933	For each ton of stone riprap furnished in place in completed work, \$2.98.	773 35	773 35	894 00
In progress	For each ton of stone riprap furnished in place in completed work, \$3.10.			2,170 00
In progress	For dredging and disposing of dredged material 38 cents per cubic yard, scow measurement.			9,900 00
	For removing and disposing of boulders, \$20. per cubic yard.			
In progress	For dredging and disposing of dredged material 37 cents per cubic yard, scow measurement.	21,462 42	21,462 42	18,520 00
	For removing and disposing of boulders \$20. per cubic yard.			
In progress	For each ton of stone riprap furnished in place in the completed work, \$1.18.	1,995 97	1,995 97	16,520 00
In progress	For furnishing all labor, paint, materials and equipment and doing all cleaning and painting, the lump sum of \$1720.			1,720 00
In progress	For dredging area and disposing of dredged material, 41 cents per cubic yard, scow measurement.			9,860 00
	For removing and disposing of boulders \$20. per cubic yard.			
In progress	For furnishing and placing stone riprap and granite chips in the jetty \$3.10 per ton.			1,193 50
In progress	Unit prices			9,181 25
Not yet begun	For each steel sliding door furnished and erected, including all incidental work, \$143.37.			2,293 92
Not yet begun	Unit prices			1,440 00
Not yet begun	For removing existing plaster wall on north side of pier and replacing with gunite, the lump sum of \$1460.			2,625 00
	For placing new gunite surface on exposed face of elevator shaft, and on inner and outer corners of steel shed, the lump sum of \$615.			
	For furnishing and erecting two steel sash, the lump sum of \$50.			
	For furnishing and erecting 3 doors, complete and ready to operate, the sum of \$500.			



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The Commonwealth of Massachusetts

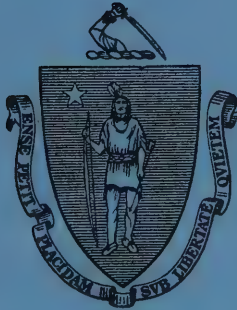
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ANNUAL REPORT

OF THE

Department of Public Works

For the Year Ending November 30, 1935







# The Commonwealth of Massachusetts

## SIXTEENTH ANNUAL REPORT

OF THE

## DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1935

*To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts:*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the sixteenth annual report of the Department of Public Works for the year ending November 30, 1935.

The organization of the Department, as defined in Chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:

*Commissioner of Public Works*, FRANK E. LYMAN<sup>1</sup> and WILLIAM F. CALLAHAN.<sup>2</sup>

*Associate Commissioner*, RICHARD K. HALE.

*Associate Commissioner*, WILLIAM F. CALLAHAN<sup>2</sup> and FRANK E. LYMAN.<sup>1</sup>

*Office Building.* The new office building for this Department is intended to accommodate the various offices of the Department which are located in Boston. Any space not immediately needed for its activities is to be assigned for other State departments at reasonable rental figures. This building was authorized by Chapter 122, Acts of 1931, with additional appropriations for completion, namely, —Chapter 21, Acts of 1932 and Item 578b, Chapter 371, Acts of 1933.

The mileage of new State highways laid out during the year amounted to 25.16 miles, but there were abandoned or discontinued 2.04 miles of State highways, so that the net mileage of State highways amounted to 1,875.58 miles at the end of the year.

The Department has constructed, reconstructed and widened 63.63 miles of State highways and built 163.81 miles of roads in co-operation with cities, towns and counties under the provisions of chapter 90, General Laws.

Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and maintenance of 8,858 miles of public ways, exclusive of State highways in 175 towns.

*New Projects, State Highways.* Reconstruction of about seven miles of State highway in Dracut, Lowell and Methuen.

Construction of steel bridge over the Boston-Revere Beach and Lynn Railroad, in Revere.

Construction of concrete bridge over Mother Brook, Dedham, on the Providence Turnpike Extension, a mile of highway on new location for the Providence Turnpike in Dedham, and three quarters of a mile of State highway on the same route in Boston.

Reconstruction of seven miles of State highway in Southwick.

Reconstruction of about five miles of State highway in Montague, partly on new location.

*Authorized by Special Acts.* A highway grade separation of considerable importance was begun at the intersection of Huntington Avenue and the Fenway, the latter being carried over Huntington Avenue.

*Bond Issue.* The Legislature by an Act, Chapter 464, of the current year, provided for a Public Works Program for the purpose of alleviating existing conditions resulting from unemployment. This Act authorized several classes of public works projects to be carried out by the Department of Public Works or under its direct supervision, at a total cost amounting to \$13,000,000. The State Treasurer is authorized by the Act, generally referred to as the Bond Issue Legislation, to borrow on the credit of the Commonwealth such sums as may be necessary, but not in excess of the amount above stated. A copy of this Act is submitted below. The amount set aside for highway projects is \$12,000,000, and the balance,

<sup>1</sup> Term as Commissioner of Public Works terminated and appointed Associate Commissioner on Dec. 20, 1934.

<sup>2</sup> Term as Associate Commissioner terminated and appointed Commissioner of Public Works on Dec. 29, 1934.



\$1,000,000, is for waterways projects. Federal co-operation is authorized under this Act.

The selection of projects to be carried out has been made with a view to undertaking the most urgent improvements. The allotment of \$4,000,000 for construction of sidewalks along State highways and any amounts used as the Commonwealth's share for the abolition of grade crossings, will be justified by the greater safety to human life as provided by such projects.

The grant of \$2,300,000 distributed for projects to be carried out directly by the cities and towns of the Commonwealth, has afforded the means of the employment of local labor.

This Act authorized the Department to enter into agreements with the Federal Government for the execution of projects to be carried out with both State funds and Federal funds.

The Federal Emergency Relief Appropriation Act of 1935 (Public Resolution No. 11, 74th Congress) provided for the construction of highways, roads and streets in accordance with the provisions of the Federal Highway Act. Under this legislation the Secretary of Agriculture promulgated certain rules and regulations approved by the President on July 12, 1935, for carrying out the provisions of this Act.

The Department of Public Works entered into an agreement with the Secretary of Agriculture on August 27, 1935, for carrying out highway projects with Federal funds, designated as "Works Program Highway Funds," amounting to \$3,262,885. Also, an amount of \$4,210,833 was provided for the elimination of grade crossings, designated as Works Program Grade Crossing elimination projects; both of these types of projects to be carried out with the co-operation of the Bureau of Public Roads.

The agreements provided that in the execution of work financed by such Federal funds, certain classes of labor shall be obtained through the National Reemployment Service, preference being given to the employment of labor obtained from relief rolls.

The Federal Aid highway construction was authorized by the Hayden-Cartwright Act of 1934, and the allotment to Massachusetts for 1935 was \$1,741,877, and the State appropriated an equal amount to match this Federal grant.

The engineering and clerical staff of the Department was as follows:

Chief Engineer, ARTHUR W. DEAN.<sup>1</sup>

Acting Chief Engineer, GEORGE H. DELANO.<sup>2</sup>

Highway Engineer, (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer, (Construction), RAYMOND W. COBURN.

Highway Engineer, (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:—

District No. 1, GEORGE A. CURTIS—Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS—Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON—Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN—Middlesex County.

District No. 5, JAMES E. LAWRENCE—Essex and Suffolk Counties.

District No. 6, H. O. PARKER, Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN—Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor—JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor—FRANCIS L. SELLEW.

<sup>1</sup> Resigned Oct. 4, 1935.

<sup>2</sup> Appointed Acting Chief Engineer Oct. 5, 1935.

Secretary, MARY A. RILEY.  
Financial Secretary, FRED FAIR.

*Registry of Motor Vehicles*

Registrar, MORGAN T. RYAN<sup>1</sup> and FRANK A. GOODWIN.<sup>2</sup>  
Deputy Registrar, ANTHONY A. BONZAGNI.  
Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.  
Chief Administrative Clerk, CHARLES R. GILLEY.  
Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

WILLIAM F. CALLAHAN,  
*Commissioner of Public Works.*

December 1, 1935.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:

State highway between the cities of Lowell and Boston, Report made Nov. 28, 1934, by the Department of Public Works, under Chapter 17, Resolves of 1934. (Sen. 90 of 1935.)

Advisability of widening and deepening Shirley Gut in Boston Harbor. Report made Nov. 28, 1934, by the Department of Public Works, under Chapter 19, Resolves of 1934. (H. 220 of 1935.)

A public highway on Plum Island, Report made Nov. 28, 1934, by the Department of Public Works under Chapter 21, Resolves of 1934. (Sen. 2 of 1935.)

The advisability of constructing certain traffic improvements in Boston, Cambridge and Everett. Report made Nov. 28, 1934, by the Department of Public Works, under Chapter 31, Resolves of 1934. (H. 221 of 1935.)

The improvement of the sanitary condition of Lake Quinsigamond and the watershed of said Lake. Joint report made Nov. 30, 1934, by the Department of Public Health and the Department of Public Works, as a Joint Board, under Chapter 32, Resolves of 1934. (Sen. 10 of 1935.)

Extending the existing State highway across Chelsea Creek between Boston and Chelsea. Report made Dec. 5, 1934, by the Department of Public Works, under Chapter 33, Resolves of 1934. (Sen. 165 of 1935.)

The advisability of licensing contractors and builders and relative to certain matters relating to contracts for and the employment of persons on public works. Report made Dec. 5, 1934, by special commission, established by Chapter 33, Resolves of 1934, and continued under authority of Chapter 34, Resolves of 1934. (H. 217 of 1935.)

Certain proposed traffic routes in the Metropolitan District. Report made Dec. 5, 1934, by the Department of Public Works, under Chapter 45, Resolves of 1934. (H. 223 of 1935.)

The protection of property along the waterfront in the Beachmont Section of the City of Revere. Joint report made Dec. 5, 1934, by the Department of Public Works and the Metropolitan District Commission, acting as a Joint Board, under Chapter 47, Resolves of 1934. (H. 299 of 1935.)

The desirability of establishing a free port in the Port of Boston and a study of the provisions of certain Federal legislation relative to foreign trade zones in ports of entry of the United States, and certain other related matters. Joint report made February, 1935, by the Boston Port Authority and the State Commissioner of Public Works, acting jointly, under Chapter 48, Resolves of 1934. (H. 1950 of 1935.)

The sewage problem in the South Essex Sewerage District. Joint Report made Nov. 28, 1934, by the Department of Public Health and the Department of Public Works, acting as a Joint Board, under Chapter 49, Resolves of 1934. (H. 1250 of 1935.)

<sup>1</sup>Resigned Feb. 6, 1935.

<sup>2</sup>Appointed Registrar of Motor Vehicles, Feb. 7, 1935.



## RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 4, 1935, as required by law that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. In order to provide for a revision of the motor vehicle law fixing the registration fee for certain motor vehicles, a modification of section 33, chapter 90, General Laws, as amended by chapter 409, Acts of 1935, is recommended, in its application to the rate fixed for registration of certain trucks and tractors.

## APPROPRIATIONS

Chapter 249, Acts of 1935, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

## Item

*Requirements for Extinguishing the State Debt*

219. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of two million five hundred ninety-eight thousand one hundred ninety dollars and eighty-three cents, payable from the following accounts and funds in the following amounts:—from the Highway Fund, one million one hundred eighty thousand one hundred seven dollars and fifty cents; and the remainder from the General Fund . \$2,598,190 83

219a. To meet one fourth of the expenditures authorized by sections one and two of chapter one hundred and twenty-two of the acts of nineteen hundred and thirty-one, as amended, and already in the main incurred, which is the proportionate part intended to be ultimately met by the commonwealth during the current fiscal year, thereby reducing by the sum hereby appropriated the amount that may be borrowed under section three of said chapter, without otherwise affecting the authority to borrow under said section three the remainder of the amount authorized to be borrowed thereunder, the sum of two million one hundred and twenty-five thousand dollars, the same to be paid from the Highway Fund . . . . . 2,125,000 00

*Interest on the Public Debt*

220. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding nine hundred thirty thousand dollars, of which sum three hundred seventy-four thousand five hundred forty-six dollars and twenty-five cents shall be paid from the Highway Fund . . . . . 930,000 00

*Service of the Department of Banking and Insurance*  
Division of Insurance:

307. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred ninety-five thousand dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund . . . . . 195,000 00

*Service of the Department of Corporations and Taxation*  
Corporations and Tax Divisions:

313. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred twenty-seven thousand four hundred dollars, of which sum not more than fifty thou-

sand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so called, and not more than fifty thousand dollars may be payable from fees collected under chapters one hundred and twenty and two hundred and thirty-four, both of the acts of nineteen hundred and thirty-three, and under section twenty-seven of chapter one hundred and thirty-eight of the General Laws, as most recently amended, to cover the estimated cost of collection of alcoholic beverages taxes, so called . . . \$227,400 00

*Service of the Department of Public Safety*

Division of State Police:

616. For the salaries of officers, including detectives, a sum not exceeding five hundred thousand dollars, of which sum not more than one hundred eighty-four thousand dollars may be charged to the Highway Fund. The additional detectives, for which provision is hereby made, when appointed, shall not be under twenty-five years of age or over fifty years of age, notwithstanding the provisions of any other law to the contrary . . . 500,000 00
618. For other necessary expenses of the uniformed division, including traveling expenses of detectives, a sum not exceeding four hundred thirty-nine thousand dollars, of which sum not more than one hundred forty-one thousand dollars may be charged to the Highway Fund . . . 439,000 00

*Service of the Department of Public Works*

The appropriations made in the following four items are to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

635. For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars . . . 19,500 00
636. For personal services of clerks and assistants to the commissioner, a sum not exceeding eighty-four hundred dollars . . . 8,400 00
637. For traveling expenses of the commissioners, a sum not exceeding two thousand dollars . . . 2,000 00
638. For telephone service in the public works building, a sum not exceeding twenty-three thousand dollars . . . 23,000 00

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

639. For the maintenance and operation of the public works building, a sum not exceeding one hundred seven thousand nine hundred dollars . . . 107,900 00
640. For the salaries of watchmen for the public works building, a sum not exceeding fourteen thousand two hundred and eighty dollars . . . 14,280 00

The department of public works is hereby authorized to rebate the rent of certain space in the public works building occupied by the Copeland News Service.

The department of public works is hereby authorized to rebate the rent of certain space in the public works building occupied by the federal auditors on Public Works Administration projects.

642. For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding ninety-two thousand dollars . . . 92,000 00



## Item

643.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding eleven thousand five hundred dollars . . . . .	\$11,500 00
644.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding thirteen thousand five hundred dollars . . . . .	13,500 00
645.	For the construction and repair of town and county ways, a sum not exceeding two million three hundred and fifty thousand dollars . . . . .	2,350,000 00
646.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million four hundred fifty thousand dollars . . . . .	1,450,000 00
647.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, a sum not exceeding three million one hundred forty-five thousand dollars . . . . .	3,145,000 00
647a.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding five hundred thousand dollars . . . . .	500,000 00
648.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand dollars, to be paid from the General Fund . . . . .	15,000 00
649.	For expenses of a topographical survey and map of the commonwealth, in addition to funds received from federal appropriations or private subscriptions, a sum not exceeding fifty thousand dollars . . . . .	50,000 00
Registration of Motor Vehicles:		
650.	For personal services, a sum not exceeding nine hundred fifty-two thousand dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund . . . . .	952,000 00
651.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding four hundred eighty-three thousand dollars, to be paid from the Highway Fund . . . . .	483,000 00
652.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding one thousand dollars, to be paid from the Highway Fund . . . . .	1,000 00
653.	For the reconstruction of Ocean avenue in the city of Revere, as authorized by chapter three hundred and seventy-five of the acts of nineteen hundred and thirty-four, a sum not exceeding eighty thousand dollars, the same to be in addition to any amounts heretofore appropriated . . . . .	80,000 00
Functions of the department relating to waterways and public lands:		
654.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-five thousand dollars . . . . .	55,000 00
655.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary	

## Item

office and engineering supplies and equipment, a sum not exceeding sixteen hundred dollars . . . . .

\$1,600 00

656. For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars . . . . .

5,000 00

657. For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds; a sum not exceeding twenty-two thousand five hundred dollars

22,500 00

658. For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, a sum not exceeding one hundred thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered . . . . .

100,000 00

659. For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding one thousand dollars . . . . .

1,000 00

660. For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars . . . . .

500 00

661. For the operation and maintenance of the New Bedford state pier, a sum not exceeding twelve thousand dollars

12,000 00

662. For the compensation of dumping inspectors, a sum not exceeding five hundred dollars . . . . .

500 00

663. For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding five thousand dollars . . . . .

5,000 00

664. For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding three thousand dollars . . . . .

3,000 00

665. For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding thirty-five hundred dollars . . . . .

3,500 00

666. For expenses of perambulating state boundary lines, a sum not exceeding one thousand dollars . . . . .

1,000 00

The unexpended balance of the appropriation made by item six hundred and thirty-eight of chapter two hundred and forty-five of the acts of nineteen hundred and thirty-one for certain work in the Taunton River, authorized by chapter four hundred and five of the acts of nineteen hundred and thirty, which was reappropriated by chapter one hundred and seventy-four of the acts of nineteen hundred and thirty-three, is hereby again reappropriated.



## Item

666a.	For the reconstruction of a certain pier at Plymouth, a sum not exceeding forty-five thousand dollars . . . .	\$45,000 00
	Total . . . . .	\$255,600 00

Functions of the department relating to Port of Boston  
(the following items are to be paid from the Port of  
Boston receipts):

667.	For the construction of railroads and piers and for the development of certain land, a sum not exceeding ten thousand dollars . . . . .	10,000 00
668.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred eight thousand dollars . . . . .	108,000 00
669.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding eighty thousand dollars . . . . .	80,000 00
670.	For dredging channels and filling flats, a sum not exceeding ninety thousand dollars, the same to be in addition to any unexpended balance of the appropriation made for the purpose in the previous year . . . . .	90,000 00

*Miscellaneous*

The following items are to be paid from the Highway  
Fund, with the approval of the Metropolitan District  
Commission:

691.	For maintenance of boulevards and parkways, a sum not exceeding five hundred sixty-eight thousand six hundred and seventy-five dollars . . . . .	568,675 00
692.	For resurfacing of boulevards and parkways, a sum not exceeding two hundred seventy-five thousand dollars . . . . .	275,000 00
	There is hereby reappropriated from the unexpended balance of the appropriation for resurfacing of boulevards and parkways for the fiscal year nineteen hundred and thirty-three the sum of twenty-six hundred eighty-two dollars and eighty-seven cents.	
693.	For maintenance of Wellington bridge, a sum not exceeding forty-seven hundred and eighty dollars . . . . .	4,780 00

*Unclassified Accounts and Claims*

For certain other aid:

699.	For the compensation of certain public employees for injuries sustained in the course of their employment, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as most recently amended by section seven of chapter three hundred and eighteen of the acts of nineteen hundred and thirty-three, a sum not exceeding fifty-five thousand dollars, of which sum not more than twenty thousand dollars may be charged to the Highway Fund . . . . .	55,000 00
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## DEFICIENCIES

For deficiencies in certain appropriations of previous  
years, in certain items, as follows:

*Service of the Department of Public Works*

Functions of the department relating to highways:

For the suppression of gypsy and brown tail moths on state highways, the sum of ninety-one dollars and forty-three cents, to be paid from the Highway Fund . . . . .	\$91 43
For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the sum of twenty dollars and seventy-eight cents, to be paid from the Highway Fund . . . . .	20 78

Functions of the department relating to waterways and public lands:

For the operation and maintenance of the New Bedford state pier, the sum of sixty-four dollars and twenty-four cents . . . . .	64 24
For the operation and maintenance of the Cape Cod Canal pier, the sum of one hundred three dollars and twenty-eight cents . . . . .	103 28

Functions of the department relating to Port of Boston:

For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, the sum of seventy-two cents, to be paid from the Port of Boston receipts . . . . .	72
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SECTION 3. To provide for increases in the salaries and compensation of certain state officers and employees to be granted under the provisions of sections forty-five to fifty, inclusive, of chapter thirty of the General Laws, as appearing in the Tercentenary Edition thereof, there is hereby appropriated a sum not exceeding four hundred thousand dollars, of which sum not more than sixty thousand dollars shall be taken from the Highway Fund, not more than thirty thousand dollars from funds of the metropolitan district commission, and the balance from the General Fund, the same to be in addition to any appropriations otherwise made for such salaries and compensation. For the purpose of apportioning the appropriation made by this section, each sum expressed by section two of this act to be available in whole or in part for personal services shall be increased by such amount as will make available for salaries and compensation provided for thereby, so much as is required to provide for the aforesaid increases in such salaries and compensation. The state comptroller, in setting up such items for personal services on the appropriation ledger in his bureau, shall take as the amounts appropriated therefor by section one and this section the sums so expressed as increased as aforesaid, and he shall forthwith notify each officer having charge of any office, department or undertaking which receives such an appropriation for personal services of the amount thereof as so set up. The division of personnel and standardization shall furnish, upon the request of the state comptroller, all necessary assistance in carrying out the provisions of this act.

SECTION 4. No expenditures in excess of appropriations provided for under this act shall be incurred by any department or institution, except in cases of emergency, and then only upon the prior written approval of the governor and council.

SECTION 6. No payment shall be made or obligation incurred under authority of any special appropriation made by this act for construction of public buildings or other improvements at state institutions until plans and specifications have been approved by the governor, unless otherwise provided by such rules and regulations as the governor may make.



SECTION 7. No expenses incurred for mid-day meals by state employees, other than those who receive as part of their compensation a non-cash allowance in the form of full or complete boarding and housing, and those employees who are stationed beyond commuting distance from their homes for a period of more than twenty-four hours, shall be allowed by the commonwealth.

#### SUPPLEMENTARY APPROPRIATIONS

Chapter 497, Acts of 1935, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

SECTION 1. To provide for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

#### SECTION 2.

#### Item

##### *Service of the Department of Public Works*

The appropriation made in the following item is to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

636.	For personal services of clerks and assistants to the commissioner, a sum not exceeding twelve hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	\$1,200 00
	Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):	
639.	For the maintenance and operation of the public works building, a sum not exceeding twenty-five thousand seven hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . .	25,700 00
640.	For the salaries of watchmen for the public works building, a sum not exceeding sixty-five hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	6,500 00
642.	For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding fourteen hundred and forty dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	1,440 00
643a.	For expense of membership of the department in the American Association of State Highway Officials, a sum not exceeding three hundred and fifty dollars . . . . .	350 00
647.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, a sum not exceeding four hundred ninety-seven thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . .	497,000 00

##### Registration of Motor Vehicles:

650.	For personal services, a sum not exceeding ten thousand five hundred dollars, to be paid from the Highway Fund and	
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Item

to be in addition to any amount heretofore appropriated for the purpose . . . . .

\$10,500 00

651. For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding thirty-seven thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose . . . . .

37,000 00

Specials:

- 653a. For the payment of land damages incidental to the road expenditures authorized by chapter four hundred and twenty of the acts of nineteen hundred and thirty, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund. Section twelve of said chapter four hundred and twenty shall not apply to this item . . . . .

25,000 00

- 653b. For the payment of land damages incidental to the road expenditures authorized by chapter three hundred and forty-one of the acts of nineteen hundred and thirty-four, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund . . . . .

25,000 00

Functions of the department relating to waterways and public lands:

660. For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .

500 00

665. For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding one thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .

1,000 00

666. For expenses of perambulating state boundary lines, a sum not exceeding twenty-five hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .

2,500 00

- 666b. (This item omitted.)

- 666c. For expenses of certain improvements at the New Bedford pier, as authorized by chapter three hundred and eighty-nine of the acts of the current year, a sum not exceeding ten thousand dollars . . . . .

10,000 00

- 666d. For expenses of certain improvements in the Salisbury reclamation district, as authorized by chapter three hundred and ninety-nine of the acts of the current year, a sum not exceeding thirteen thousand dollars . . . . .

13,000 00

- 666e. For expenditures for flood control of the Housatonic river, as authorized by chapter four hundred and thirteen of the acts of the current year, a sum not exceeding twelve thousand five hundred dollars . . . . .

12,500 00

Functions of the department relating to Port of Boston (the following items are to be paid from the Port of Boston receipts):

668. For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding sixty-



## Item

	two hundred and fifty dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	\$6,250 00
668a.	For deficiencies in appropriations of previous years for the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding four thousand sixty dollars and six cents . . . . .	4,060 06
669.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding twenty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	20,000 00
670.	For dredging channels and filling flats, a sum not exceeding thirty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	35,000 00
670a.	For the removal of certain abandoned hulks in Boston Harbor, as authorized by chapter two hundred and eighty-two of the acts of the current year, a sum not exceeding five thousand dollars . . . . .	5,000 00

*Miscellaneous*

The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

691.	For maintenance of boulevards and parkways, a sum not exceeding twenty-eight thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	28,000 00
692a.	For the extension of the Mystic Valley Parkway, so-called, as authorized by chapter three hundred and seven of the acts of the current year, a sum not exceeding ten thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	10,000 00

*Unclassified Accounts and Claims*

705.	For the payment of claims authorized by certain resolves of the current year, a sum not exceeding thirty-six thousand eight hundred forty-seven dollars and ninety-six cents of which sum twenty-five hundred dollars shall be paid from the Highway Fund. Said payments shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted as full compensation on the part of the commonwealth in respect thereto . . . . .	36,847 96
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## DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

*Department of Public Works*

For	services other than personal for functions of the department relating to highways, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, the sum of eight dollars, to be paid from the Highway Fund . . . . .	8 00
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Item

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the sum of twenty dollars, to be paid from the Highway Fund . . . . .	\$20 00
For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, the sum of one hundred forty-nine dollars and eighteen cents . . . . .	149 18

Other Appropriations

653. For the reconstruction of Ocean avenue in the city of Revere, as authorized by chapter three hundred and seventy-five of the acts of nineteen hundred and thirty-four, as amended by chapter four hundred and eighty-seven of the acts of the current year, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose; provided, that the department of public works is hereby authorized to contract forthwith for work and to incur any other incidental expenses authorized up to the amount of six hundred and ten thousand dollars, as authorized by said chapter three hundred and seventy-five, as amended, and the state treasurer, for the purposes of this act, may borrow under authority granted by section forty-seven of chapter twenty-nine of the General Laws, as appearing in the Tercentenary Edition thereof . . . . .	25,000 00
645. For the construction and repair of town and county ways, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose . . . . .	25,000 00

HIGHWAY FUND DIVERSION

Chapter 476, Acts of 1935, provided for the transfer of the proceeds of the gasoline tax from the Highway Fund to the General Fund, as follows:  
WHEREAS, The deferred operation of this act would tend to defeat its purpose, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

BE IT ENACTED, ETC., AS FOLLOWS:

The state treasurer is hereby authorized and directed to transfer the sum of nine million five hundred thousand dollars from the Highway Fund to the General Fund.

BOND ISSUE LEGISLATION

Chapter 464, Acts of 1935, provided for a Public Works Program for the Purpose of Alleviating Existing Conditions resulting from Unemployment, as follows:  
WHEREAS, The deferred operation of this act would tend to defeat its purpose, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES IN GENERAL COURT ASSEMBLED, AND BY THE AUTHORITY OF THE SAME, AS FOLLOWS: SECTION 1. The following classes of public works projects may be carried out by the state department of public works or



	Limits of Aggregate Ultimate Liability on the Part of the Commonwealth
(1) Highway projects, including alterations of highway bridges over or under railroads and the construction and reconstruction of circles, to be carried out, under the direct supervision of the department of public works, by any city or town eligible to receive allotments under chapter eighty-one or ninety of the General Laws, any such project to be paid for out of one hundred per cent grant to a city or town so eligible, except that an allotment for engineering services may be made at the discretion of the commissioner of said department before any such grant is made . . . . .	\$2,300,000 00
Said sum of \$2,300,000.00 shall be composed of the following items: I, Engineering, \$200,000.00; II, To towns under chapter 81 of the General Laws, \$50 per mile of public ways; III, To cities and towns not eligible under chapter 81 upon the basis of their respective payments for the state tax.	
(2) Projects for the construction of sidewalks bordering state highways, to be carried out by said department, including expenses for engineering and land damages . . . . .	4,000,000 00
(3) Highway projects under the Hayden-Cartwright bill, so called . . . . .	1,741,877 00
(4) Grade crossing eliminations, including alterations of crossings not at grade, and highway projects, including construction, reconstruction and maintenance of state highways, land damages and expenses for engineering services, and also expenses necessary to carry out any highway or grade crossing projects to which the federal government contributes . . . . .	3,958,123 00
(5) Projects for the improvement, development and protection of rivers and harbors, tide waters and foreshores, including work on Commonwealth Pier . . . . .	1,000,000 00
(Of which not less than \$250,000.00 shall be expended elsewhere than in Boston Harbor.)	

The commissioner of said department shall have full authority to select the projects that may be entered into under authority hereof and to carry out negotiations and enter into agreements relative thereto with the appropriate agencies of the federal government, if deemed advisable by him, and no project shall be entered into hereunder unless it is approved by him. The commonwealth may accept and use for any project so approved any grant of federal funds. For the purpose of carrying out projects under this act, the state treasurer may, from time to time, borrow on the credit of the commonwealth such sums, not exceeding in the aggregate thirteen million dollars and may issue in one or more series bonds, notes or other forms of written acknowledgment of debt, hereinafter referred to as obligations. Each series shall carry such rates of interest as the state treasurer may fix, with the approval of the governor, and shall be payable serially in such amounts and at such times as the state treasurer may determine, with the approval of the governor; provided, that the principal payments of each series shall be made annually in amounts as nearly equal as may be. The obligation last payable of any series issued hereunder shall become due not later than five years from the date of the obligations of such series. All obligations issued under this act shall be signed by the state treasurer and approved by the governor. Facsimiles of the signature of the governor printed thereon shall have the same effect as his written signature. All obligations issued under this act shall be payable, as to both principal and interest, in such funds as are, on the respective dates of payment of such principal and interest, legal tender for the payment of debts due

the United States of America. All interest payments and payments on account of principal on such obligations shall be paid from the Highway Fund, without appropriation; provided, that, notwithstanding the foregoing, such obligations shall be general obligations of the commonwealth. In anticipation of the sale of such obligations, the state treasurer may from time to time, with the approval of the governor, pay from the Highway Fund, without appropriation, any of the expenses of carrying out any projects authorized under this act; but all money so paid from said fund shall be repaid thereto out of the proceeds of the sale of such obligations.

SECTION 2. For the purposes of this act, the state department of public works and any city or town may enter into agreements whereby a city or town may obligate itself to acquire such lands or rights therein as may be necessary for carrying out any project aforesaid or to pay all expenses incident to the acquisition of such lands and rights therein, or both. For the purposes of this act, the state department of public works, on behalf of the commonwealth, or on behalf of any city or town entering into an agreement to carry out any project as aforesaid, or any city or town so entering into any agreement aforesaid on its own behalf, may enter upon or take by eminent domain under chapter seventy-nine of the General Laws, or acquire by purchase or otherwise, such public or private lands, cemeteries, public parks or reservations or parts thereof or rights therein, including lands or rights therein under the control of the metropolitan district commission, or such public ways, as may be necessary for carrying out any such project, including such lands or rights therein as may be necessary for the construction of any necessary drainage outlets; provided that no damages shall be paid for public lands or parks, parkways or reservations so taken. Upon the recording of an order to that effect by said department in its office, the title to and control of lands or rights therein taken or acquired in connection with a highway project, other than a state highway project, shall become vested in the city or town in which the land lies or the control of land or rights therein so taken or acquired shall become vested in the metropolitan district commission, and thereafter the highway improvement completed under such project shall be kept in good condition and repair by such city or town or the metropolitan district commission, as the case may be.

SECTION 3. For the purpose of paying any expenses incurred under any agreement entered into under the preceding section, a city, town or county may borrow such sums as may be necessary, and may issue bonds or notes therefor which shall be payable in not more than ten years; and such indebtedness shall, except as herein provided, be subject to chapter forty-four of the General Laws in the case of a city or town, and to chapter thirty-five of the General Laws in the case of a county. Any borrowing hereunder by a city or town may be outside its statutory limit of indebtedness.

Approved August 5, 1935.



## FINANCIAL STATEMENTS

## Summary of Income, Year Ending November 30, 1935

## HIGHWAY FUND

(Section 34, Chapter 90, General Laws, as amended)

(See Chapter 288, Acts of 1925)

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts . . . . .	\$6,842,153	56
Gasoline tax, gross . . . . .	17,366,074	32
Contributions for highways and assessments (G. L. Ch. 81) . . . . .	156,094	16
Appropriation balances of previous years reverting	171,087	54
Contributions and refunds . . . . .	13,800	80
Sale of old materials and buildings . . . . .	3,112	05
Reimbursement for repairs to guard rail and other property . . . . .	10,741	66
Rent of property (Nursery) . . . . .	192	00
Rent of space, Public Works Building . . . . .	52,328	64
Slot Machine Receipts . . . . .	213	20
Premium and Interest on Bonds . . . . .	99,108	89
		\$24,714,906 82

## PORT OF BOSTON FUND

(Chapter 91, General Laws)

Rents (leases and permits) . . . . .	\$144,609	93
Reimbursement for services (inspection of dumping dredged material in Boston Harbor) . . . . .	94	86
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.) . . . . .	116,813	77
Use of Commonwealth Pier No. 1 (rentals, etc.) . . . . .	8,141	90
Revenue from permits for dumping dredged material at receiving basins . . . . .	5,540	88
License charges (for tidewater displacement and occupying Commonwealth tide land, Boston Harbor) . . . . .	40,162	38
Telephone pay station receipts . . . . .	156	25
Sales of land . . . . .	41,291	00
Sales of Boston Harbor maps . . . . .	75	
Appropriation balances of previous years reverting	2,511	75
		\$359,323 47

## DEPARTMENT INCOME

(Ordinary Revenue)

Sales (specifications and plans for contracts) . . . . .	\$456	00
Aircraft licenses . . . . .	152	00
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, Ch. 196, Acts of 1925) . . . . .	398	97
License charges (for tidewater displacement and occupying Commonwealth tide lands outside of Boston Harbor) . . . . .	5,914	77
Certified copying charges . . . . .	135	00
Sales of Atlas sheets and miscellaneous plans . . . . .	713	00
Use of Province Lands (S. 25, C. 91, G. L.) . . . . .	201	25
Permits for advertising signs . . . . .	9,202	11
Use of New Bedford State Pier . . . . .	23,921	89
Use of Cape Cod Canal State Pier . . . . .	4,203	47
Sundries . . . . .	63	34
		\$45,361 80

IMPROVEMENT OF RIVERS AND HARBORS TRUST  
(Sections 11, 29, Chapter 91, General Laws)

Contributions from towns, individuals or others . . . . \$74,587 34

HIGHWAY TRUST

(Section 30, Chapter 81, G. L.)

Federal Aid (reimbursement from United States Government) 3,309,287 63

Total . . . . . \$28,503,467 06

EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 249 and 497, Acts of 1935, during the fiscal year ending November 30, 1935, were as follows:

ADMINISTRATIVE

Commissioners, Associate Commissioners, Personal  
services of clerks, stenographers, and Commis-  
sioners' travel . . . . . \$30,684 92  
Public Works Department Building, land and  
services . . . . . 2,821 32  
Public Works Building, equipment . . . . . 1,806 61  
Public Works Building, operation and maintenance 126,630 82  
Public Works Building, telephone service . . . . 23,380 81  
Public Works Building, Salaries of Watchmen . . . 15,299 27  
Total . . . . . \$200,623 75

RELATING TO HIGHWAYS

Personal Services—Chief Engineer, clerks and sten-  
ographers . . . . . \$94,055 31  
State Highways—Construction (Chapter 81, G. L.)  
General contract work . . . . . \$2,870,873 75  
Engineering (supervision) . . . . . 618,214 85  
Investigation of Worcester Pike . . . . . 14,971 07  
Highway Testing Laboratory . . . . . 11,500 08  
Triangulation Points . . . . . 98 70  
Hingham-Hull (Chap. 118, Acts of 1931) . . . . 100 00  
Fore River Bridge:  
Substructure . . . . . \$493,221 31  
Superstructure . . . . . 521,439 07  
1,014,660 38  
\$4,530,418 83

Maintenance and Repair of State Highways (Chap-  
ter 81, General Laws)

Reconstruction of State Highways  
General contract work . . . . . \$1,146,824 34  
Engineering, supervision on reconstruction . . . 359,806 23  
\$1,506,630 57

Ordinary Maintenance

General Maintenance . . . . . \$1,989,289 11  
Engineering (supervision) . . . . . 229,312 18  
Highway Testing Laboratory . . . . . 9,913 87  
Care and repair of road building machinery . . . 187,052 14  
Removal of snow from highways . . . . . 940,316 31  
Road planting and development . . . . . 29,960 80  
Traffic engineering, signs, and traffic count . . . 140,467 98  
Paint manufacture . . . . . 18,270 79  
Newburyport Bridge, Salisbury, Newburyport,  
over Merrimac River, maintenance and oper-  
ation . . . . . 4,691 92



Brightman St. Bridge, Fall River-Somerset, maintenance and operation . . . . .	\$9,988 38	
New Bedford-Fairhaven Bridge, Acushnet River, maintenance and operation . . . . .	11,743 88	
Quincy-Weymouth Bridge, maintenance and operation . . . . .	19,834 72	
Detour and route maps . . . . .	2,412 64	
Safety Advertising . . . . .	2,000 00	
Geodetic Survey . . . . .	3,419 56	
	<hr/>	\$3,598,674 28
<i>Construction of Town and County Ways</i> (Section 34, Chapter 90, G. L.)		
State's expenditures for work contracted for in cities and towns . . . . .	\$2,110,178 46	
Engineering and expense (supervision) . . . . .	330,407 37	
	<hr/>	\$2,440,585 83
<i>Aiding Towns in the Repair and Improvement of Public Ways</i> (Section 26, Chapter 81, G. L.)		
State's expenditures for work contracted for in cities and towns . . . . .	\$1,413,011 45	
Engineering and expense (supervision) . . . . .	121,788 46	
	<hr/>	\$1,534,799 91
<i>Emergency Public Works Construction</i> . . . . .		3,237,453 73
<i>Special Acts:</i>		
<i>Incidentals</i> (printing, postage, supplies, etc.) . . . . .		9,920 03
<i>Advertising signs, regulation of personal services and expenses</i> . . . . .		15,253 09
<i>Highways in Malden, Braintree, Weymouth and Hingham</i> . . . . .		285 00
<i>Highways in Metropolitan District</i> (Chapter 420, Acts of 1930, as amended by Chapter 450, Acts of 1931)		
Section 1. Canton-Dedham-Wellesley, etc. . . . .	\$13,086 89	
Section 2. Canterbury St., Boston . . . . .	45,108 46	
Section 3. Land taking—Neponset River, Mil- ton . . . . .	400 00	
Section 4. West Roxbury-Brookline Parkway . . . . .	13,817 20	
	<hr/>	72,412 55
<i>Abolition of Grade Crossings</i> (Chapter 417, Acts of 1930) . . . . .		1,700 55
<i>Construction of Saugus River Bridge</i> (Chapter 241, Acts of 1932) . . . . .		2,801 55
<i>Expenditures under Chapter 258, Acts of 1932.</i>		
Section 1. State Highway, Revere . . . . .	\$14,455 00	
Section 2. Boston-Revere . . . . .	2,858 29	
	<hr/>	17,313 29
<i>Alewife Brook Parkway Extension</i> (Chapter 302, Acts of 1932) . . . . .		76,816 17
<i>Traffic Circle, Neponset River</i> (Chapter 341, Acts of 1934) . . . . .		23,079 92
<i>Reconstruction of Ocean Avenue, Revere</i> (Chapter 375, Acts of 1934) . . . . .		31,382 52
<i>Study relative to Bridges, Turners Falls</i> (Chap- ter 314, Acts of 1934) . . . . .		5,427 50
<i>Chelsea North Bridge</i> (Chapter 342, Acts of 1924) . . . . .		100,751 19
<i>Suppression of gypsy and brown-tail moths, on State Highways in cities and towns</i> . . . . .		13,126 92
<i>Topographical survey and maps</i> . . . . .		42,342 09
<i>Expense of membership in American Association of State Highway Officials</i> . . . . .		350 00

*Chap. 464, Acts of 1935—Bond Issue*

Class 1. Cities and towns . . . . .	\$2,075 197 32
Class 2. Construction of sidewalks . . . . .	342,004 80
Class 4. Grade crossings, etc. . . . .	1,555,393 53
Class 5. Development of Boston Harbor . . . . .	
	<hr/>
	\$3,972,595 65

*Total Expenditures for Highways* . . . . . \$21,328,176 48

## SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses . . . . . \$57,230 00

*Boston Harbor:*

Bond Issue (Chap. 464, Acts 1935) . . . . .	16,434 24
Dredging and Filling . . . . .	129,435 21
Hough's Neck, Quincy, Construction (Chapter 322, Acts 1934) . . . . .	8,480 54
Freeport Investigation (Chap. 48, Resolves 1934) . . . . .	3,208 47
Maintenance and Operation of Commonwealth Pier 5, South Boston . . . . .	106,000 03
Maintenance and Operation of Commonwealth Pier 1, East Boston. (No appropriation for 1935.) . . . . .	
Maintenance of Property . . . . .	137,615 13
Streets, Piers and Railroads . . . . .	12,636 12
Wrecks, Removal of . . . . .	5,253 14

*Outside Boston Harbor:*

Bond Issue (Chap. 464, Acts 1935) . . . . .	97,190 97
Cape Cod Canal Pier, construction . . . . .	75 00
Cape Cod Canal Pier, operation and maintenance . . . . .	4,343 90
Cape Poge, Edgartown (Federal Public Works Adm.) . . . . .	4,716 95
Compensation of Dumping Inspectors . . . . .	63 46
Improvement of Rivers and Harbors . . . . .	146,506 35
Marshfield Shore Protection (Chap. 407, Acts 1931) . . . . .	78 75
New Bedford State Pier—Operation and Maintenance . . . . .	8,920 96
New Bedford State Pier—(Chap. 389, Acts 1935) . . . . .	4,341 03
Plymouth Property, expenses of . . . . .	2,975 93
Plymouth State Pier, reconstruction (Chap. 245, Acts 1935) . . . . .	32,028 19
Province Lands, expenses of . . . . .	4,988 63
Repairing Damages to shore . . . . .	21,833 98
Scituate Shore Protection (Chap. 286, Acts 1933) . . . . .	50 00
State Boundary Lines, perambulation of . . . . .	2,233 49
Stream Gauging . . . . .	5,000 00
Topographical Survey . . . . .	848 66
Town Boundaries, Surveying . . . . .	842 23
Winthrop Breakwater Extension (Chap. 286, Acts 1934) . . . . .	43,851 84

*Total* . . . . . \$857,183 20

## EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles . . . . . \$1,460 524 17

SUMMARY OF EXPENDITURES BY DEPARTMENT  
FOR YEAR ENDING NOVEMBER 30, 1935

Administrative . . . . .	\$200,623 75
Relating to Highways . . . . .	21,328,176 48
Registry of Motor Vehicles . . . . .	1,460,524 17
Relating to Waterways . . . . .	857,183 20

*Total* . . . . . \$23,846,507 60



## CO-OPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under Chapter 81, General Laws, as amended, of approximately \$2,987,436.93 for co-operative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

Financial statement verified,  
Approved, GEO. E. MURPHY, *Comptroller*.

## RELATING TO HIGHWAYS

## GENERAL STATEMENT

*State Highways.*—During the year ending November 30, 1935, the Department laid out new State highways amounting to 25.16 miles in 14 cities and towns. Under Chapter 81, General Laws, as amended by Chapter 427, Acts of 1931, 2.04 miles of State highway were discontinued or abandoned. The total length of State highways at the end of the year was 1,875.38 miles.

*Highways Constructed in 1935.*—Construction has been completed on 21.344 miles of State highway and 163.815 miles of highway under the provisions of Section 34, Chapter 90, General Laws, as amended, making a total of 185.159 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:

- 5.029 miles of Reinforced Cement Concrete.
- 2.792 miles of Sheet Type Cement Concrete.
- 57.617 miles of Bituminous Macadam.
- 16.257 miles of Bituminous Concrete.
- 45.525 miles of Bituminous Concrete (Mixed in Place).
- 33.576 miles of Gravel with Bituminous Treatment.
- 13.185 miles of Gravel.
- 11.178 miles of Penolithic.

*Resurfacing, Reconstruction and Widening of State Highways.*—During the year 3.517 miles of State highway were widened but not resurfaced, and 38.778 miles were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be finished next year.

The Resurfacing or Reconstruction of State Highways in 1935 was divided into types as follows:

- 2.242 miles of Reinforced Cement Concrete.
- 19.069 miles of Bituminous Macadam.
- 17.202 miles of Bituminous Concrete.
- 0.265 miles of Penolithic.

*Surveys, Plans and Estimates.*—During the year ending November 30, 1935, preliminary surveys, plans and estimates were made as follows:

*For State Highway Construction.*—Reconnaissance surveys and plans in 1 city and 17 towns, 68.48 miles; preliminary surveys in 7 cities and 35 towns, 84.983 miles; plans in 2 cities and 16 towns, 30.637 miles; preliminary estimates in 4 cities and 12 towns, 22.923 miles; lines and grades in 3 cities and 14 towns, 27.193 miles; and final surveys in 3 cities and 18 towns, 28.975 miles.

*For State Highway Reconstruction and Resurfacing.*—Reconnaissance surveys and plans in 5 towns, 11.052 miles; preliminary surveys in 5 cities and 23 towns, 45.147 miles; plans in 6 cities and 19 towns, 41.435 miles; preliminary estimates in 4 cities and 11 towns, 36.325 miles; lines and grades in 5 cities and 19 towns, 71.780 miles; and final surveys in 4 cities and 27 towns, 75.520 miles.

*For State Highway Maintenance.*—Preliminary surveys and plans in 1 city and 6 towns, 8.470 miles; lines and grades in 1 city and 6 towns, 8.470 miles.

*Under Section 34, Chapter 90, General Laws, as amended.*—Reconnaissance surveys and plans in 13 towns, 12.25 miles; preliminary surveys in 13 cities and 228 towns, 246.107 miles; plans in 13 cities and 231 towns, 225.304 miles; prelimi-

nary estimates in 12 cities and 201 towns, 175.295 miles; lines and grades in 18 cities and 199 towns, 182.134 miles; and final surveys in 8 cities and 92 towns, 85.643 miles.

*Under the provisions of various Acts and Resolves*, surveys, plans, estimates, lines and grades were made as follows:

Chapter 375, Acts of 1934: 0.0265 mile of surveys and plans in 1 city, 0.802 mile of preliminary estimate and lines and grades in 1 city.

Precise levels have been made in 33 cities and towns; first order leveling, 166 miles have been made and 285 bench marks established; second order leveling, 57.4 miles have been made and 101 bench marks established.

*Permits.*—There were 1,748 permits issued during the year for opening or occupying State highways for various purposes.

*Engineering Advice to Other Departments.*—Advice to Department of Education; 0.218 mile of preliminary survey and plans in 1 town, 0.288 mile of preliminary estimate, lines and grades in 1 town.

Advice to Department of Public Health, 0.492 mile of preliminary survey, plans, lines and grades in 1 town.

*Engineering Advice to Municipal Authorities.*—The Department furnished engineering advice without charge to 34 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.

*Approval of Specifications.*—The Department approved during the year under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of roads in 19 cities and towns.

*Planting of Trees on State Highways.*—During the past year, 3,700 trees were planted along roadsides making a total of 73,615 trees thus set out in the past thirty-one years. In addition, there were planted throughout the State 7,378 shrubs, 1,997 vines, and 2,227 evergreens; also 950 small pines on bare slopes and graded cuts.

#### PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by Section 1, Chapter 81, General Laws; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 185 cases; on the matter of outdoor advertising in three towns; on the matter of the making of rules and regulations for the reasonable and proper control of transportation by motor vehicle of personal property over public ways; on the matter of special regulations for motor vehicles in Springfield, Milton, Canton, Lexington and Boston; on the matter of the relocation of the tracks of the Eastern Massachusetts Street Railway Company on the State highway in Boston; and on the matter of the elimination of grade crossings in Newbury and Weymouth.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways . . . . .	25	23
Work under section 34, chapter 90, General Laws . . . . .	—	482
Work under section 26, chapter 81, General Laws . . . . .	175	175
Work under Special Acts . . . . .	—	3
Miscellaneous . . . . .	—	17
Elimination of grade crossings . . . . .	—	4
Total	200	704

#### STATE HIGHWAYS

##### *Petitions for State Highways*

General Laws, Chapter 81, Section 4 (Tercentenary Edition), provides that—

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or



town, they may apply, by a written petition, to the department, requesting that said way be laid out and taken charge of by the Commonwealth."

Petitions under the aforesaid section have been received during the year, as follows: —

**SELECTMEN OF PETERSHAM:** — Road locally known as the Phillipston Road, extending from Athol road to the dividing line between the towns of Petersham and Phillipston. Received Dec. 5, 1934.

**SELECTMEN OF LYNNFIELD:** — Road extending from the Newburyport Turnpike over a new location, at or near the crossing of the abandoned Boston & Maine Railroad, easterly to the dividing line between the town of Lynnfield and the city of Peabody at or near Locust Street. Received Jan. 14, 1935.

**MAYOR AND COUNCILLORS OF PEABODY:** — Road extending from the dividing line between the town of Lynnfield and the city of Peabody, at or near Locust Street, over a new location, easterly and northerly through the junction of Forest and Summit Streets to a point on the dividing line between the city of Peabody and the town of Danvers easterly from Andover Street. Received Jan. 14, 1935.

**SELECTMEN OF LUDLOW:** — Road extending from Ludlow Bridge northeasterly along Center Street to Ludlow Center, and thence easterly and northeasterly along Belchertown Street to the dividing line between the towns of Ludlow and Belchertown. Received Feb. 4, 1935.

**MAYOR AND ALDERMEN OF HOLYOKE:** — Road locally known as Main Street and Springfield Street, from the center line of Prew Avenue on the north to the city line at West Springfield on the south. Received Feb. 12, 1935.

**SELECTMEN OF MONTAGUE:** — Road extending over Federal Street, new location and Leverett Road from Main Street in Millers Falls southwesterly to the dividing line between the towns of Montague and Sunderland. Received Mar. 13, 1935.

**SELECTMEN OF ATHOL:** — Road extending from South Main Street near Gage Road, over a new location, southwesterly to the dividing line between the towns of Athol and Orange. Received Mar. 22, 1935.

**SELECTMEN OF LEVERETT:** — Road locally known as Long Plain Road, extending from the dividing line between the towns of Sunderland and Leverett to the dividing line between the towns of Leverett and Amherst. Received Apr. 10, 1935.

**SELECTMEN OF AMHERST:** — Road locally known as Leverett Street, extending from the dividing line between the towns of Leverett and Amherst to North Pleasant Street in Amherst. Received Apr. 10, 1935.

**SELECTMEN OF SUNDERLAND:** — Road extending from the dividing line between the towns of Montague and Sunderland, in a general southerly direction, to the dividing line between the towns of Sunderland and Hadley. Received Apr. 9, 1935.

**SELECTMEN OF WEST STOCKBRIDGE:** — Road extending from the State highway connecting West Stockbridge and Pittsfield westerly to the New York State line. Received May 14, 1935.

**SELECTMEN OF MONTEREY:** — Road extending from the dividing line between the towns of Great Barrington and Monterey, easterly through Monterey to the dividing line between the towns of Monterey and Otis. Received May 22, 1935.

**SELECTMEN OF ALFORD:** — Road locally known as the Green River Valley Road, extending from the dividing line between the towns of Egremont and Alford to the dividing line between the towns of Alford, Mass., and Hillsdale, N. Y. Received May 3, 1935.

**SELECTMEN OF HATFIELD:** — Road locally known as North Main and Elm Streets, extending from the dividing line between Whately and Hatfield to the dividing line between the town of Hatfield and city of Northampton. Received July 31, 1935.

**SELECTMEN OF DANVERS:** — Road extending from a point on the dividing line between the city of Peabody and the town of Danvers at or near Waters River, over a new location northerly and easterly to a point on the dividing

line between the town of Danvers and the city of Beverly near Folly Hill. Received Aug. 14, 1935.

MAYOR AND ALDERMEN OF PEABODY. — Road extending from a point on the dividing line, between the town of Lynnfield and the city of Peabody at or near Locust Street, easterly and northerly over a new location to a point on the dividing line between the city of Peabody and the town of Danvers at or near Waters River. Received Aug. 14, 1935.

MAYOR AND ALDERMEN OF BEVERLY: — Road extending from a point on the dividing line between the town of Danvers and the city of Beverly near Folly Hill, easterly over a new location to a point on the dividing line between the city of Beverly and the town of Wenham at or near Boulder Lane. Received Aug. 21, 1935.

SELECTMEN OF METHUEN: — Road locally known as Broadway, extending from Wardell Square at the junction of Broadway and Hampshire Street to the New Hampshire line. Received Sept. 5, 1935.

COUNTY COMMISSIONERS OF BARNSTABLE COUNTY: — Road extending from a point near the new Bourne Bridge, connecting with the Sagamore Bridge, and extending in a near direct line through the Mid Cape to Provincetown. Received Aug. 31, 1935.

SELECTMEN OF GREAT BARRINGTON: — Road extending from the junction of highway route 69 with routes 17 and 41 to the dividing line between the towns of Egremont and Great Barrington. Received Oct. 1, 1935.

MAYOR AND ALDERMEN OF NORTHAMPTON: — Road locally known as North King Street, extending from the end of the State highway between Greenfield and Northampton at Water Street southerly to the New York, New Haven & Hartford R. R. Underpass, also road locally known as North Main Street, extending from the end of the Berkshire Trail at Florence Street, Leeds, easterly to Bridge Road. Received Oct. 9, 1935.

SELECTMEN OF SHREWSBURY: — Road locally known as Main Street, extending from the junction of Main Street and Maple Avenue to the dividing line between the town of Shrewsbury and the city of Worcester. Received Oct. 24, 1935.

SELECTMEN OF SAUGUS: — Road extending from a point on the dividing line between the town of Saugus and city of Revere near the intersection of the boundary lines of Revere, Malden, Melrose, and Saugus northerly over a new location to the intersection of the Newburyport Turnpike and Felton Street. Received Nov. 1, 1935.

MAYOR AND CITY COUNCIL OF REVERE: — Road locally known as Squire Road, extending from Broadway westerly to a point near Stevens Street; thence on new location, northwesterly to a point on the dividing line between the cities of Malden and Revere near the intersection of Lynn and Salem Streets, also a short section of highway extending from the dividing line between the cities of Malden and Revere northerly over a new location to the dividing line between the city of Revere and town of Saugus near the intersection of the boundary lines of Revere, Malden, Melrose and Saugus. Received Nov. 7, 1935.

MAYOR AND ALDERMEN OF MALDEN: — Road extending from a point on the dividing line between the cities of Malden and Revere at or near the intersection of Lynn and Salem Streets, westerly and northerly over a new location to a point on the dividing line between the cities of Malden and Revere near the intersection of the boundary lines of Revere, Malden, Melrose and Saugus. Received Nov. 6, 1935.

## CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS

### (Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities: —



*Dracut-Lowell-Methuen*

Dec. 4, 1934, contract made with Ellsworth H. Lewis, of Andover, for reconstructing about 36,663 feet of State highway in Dracut, Lowell and Methuen, the surface consisting of bituminous concrete in Lowell and of bituminous macadam in Dracut and Methuen. The proposal amounted to \$278,579.30. Work completed Sept. 4, 1935. Expenditure during 1935, \$374,695.59.

*Revere*

Dec. 13, 1934, contract made with M. McDonough Co., of Saugus, for constructing the substructure of a steel bridge over the Boston, Revere Beach and Lynn Railroad on the North Shore Road in Revere, and surfacing the approaches thereto and the underpass road with bituminous macadam. The proposal amounted to \$139,340.80. Work completed Aug. 6, 1935. Expenditure during 1935, \$148,802.21.

*Boston-Dedham*

Dec. 26, 1934, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a precast reinforced concrete pile bridge with reinforced concrete beam deck over Mother Brook in Dedham on the Providence Turnpike Extension, about 5,144 feet of State highway on the Providence Turnpike and new location in Dedham, and about 3,464 feet of State highway on the same road in Boston, the surface over the bridge consisting of bituminous concrete, and the surface of the roadway consisting of sections of bituminous macadam, sheet asphalt, and plain concrete. The proposal amounted to \$288,701.70. Work completed Oct. 7, 1935. Expenditure during 1935, \$317,603.77.

*Revere*

Jan. 2, 1935, contract made with Lackawanna Steel Construction Corporation, of Buffalo, N. Y., for furnishing, fabricating and erecting a steel bridge superstructure over the Lynnway and the Boston, Revere Beach and Lynn Railroad. The proposal amounted to \$121,987.40. Work completed Aug. 1, 1935. Expenditure during 1935, \$121,610.66.

*Otis*

Jan. 8, 1935, contract made with Warner Bros. and Goodwin, Inc., of Sunderland, for constructing about 5,801 feet of State highway on Monterey Road, the surface consisting of stone mixed in place with tar. The proposal amounted to \$18,189.75. Work completed July 20, 1935. Expenditure during 1935, \$18,587.10.

*Revere*

Jan. 22, 1935, contract made with James G. Dempsey, of Philadelphia, Pa., for mill and shop inspection of structural steel for the superstructure of the highway bridge over the Boston, Revere Beach and Lynn Railroad. The proposal amounted to \$319.60. Work completed May 25, 1935. Expenditure during 1935, \$320.28.

*Bourne-Wareham*

Mar. 5, 1935, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing an extension to a reinforced concrete beam bridge over Cohasset Narrows. The proposal amounted to \$55,091.50. Work about four-fifths completed. Expenditure during 1935, \$52,190.08.

*Cheshire*

Mar. 5, 1935, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 11,819 feet of State highway on North Street; the surface consisting of reinforced cement concrete with bituminous macadam shoulders on each side. The proposal amounted to \$137,419.35. Work completed Sept. 24, 1935. Expenditure during 1935, \$144,658.81.

*Northborough*

April 30, 1935, contract made with Martin J. Kelly, of Boston, for furnishing and planting trees, shrubs, herbaceous plants and vines on the Worcester Turn-

pike and Southwest Connection. The proposal amounted to \$11,182.05. Work completed May 28, 1935. Expenditure during 1935, \$11,182.05.

*Lenox-Sheffield*

May 8, 1935, contract made with Warner Bros. and Goodwin, Inc., of Sunderland, for furnishing and planting trees, shrubs and vines on Automobile Route No. 7 in Lenox and Sheffield. The proposal amounted to \$11,108.30. Work completed Nov. 29, 1935. Expenditure during 1935, \$10,091.80.

*Southwick*

May 14, 1935, contract made with Warren Brothers Roads Company, of Cambridge, for reconstructing about 36,297 feet of State highway on College Highway; the surface consisting of Warcolite Bituminous Concrete Pavement. The proposal amounted to \$119,333.30. Work completed Oct. 28, 1935. Expenditure during 1935, \$105,008.20.

*Framingham*

May 28, 1935, contract made with Louis A. Reardon, of North Abington, for furnishing and planting trees, shrubs and vines in the town of Framingham. The proposal amounted to \$2,435.13. Work completed Nov. 19, 1935. Expenditure during 1935, \$2,435.13.

*Athol-Orange*

June 4, 1935, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 7,275 feet of State highway on New Salem Road in Athol, and about 8,103 feet of State highway on Plains Road in Orange; the surface consisting of bituminous macadam. The proposal amounted to \$96,680.40. Work practically completed. Expenditure during 1935, \$86,722. 22.

*Athol*

June 25, 1935, contract made with the Wey Construction Company, of Boston, for constructing a reinforced concrete extension of a concrete arch bridge over Lake Rohunta outlet, and a reinforced concrete pile bridge over Millers River, on the New Salem Road Cut-off. The proposal amounted to \$43,419.20. Work about three-fourths completed. Expenditure during 1935, \$36,434.35.

*Rutland*

May 21, 1935, contract made with J. J. Callahan, of Boston, for reconstructing about 4,400 feet of State highway on Worcester Road in Rutland; the surface consisting of bituminous macadam. The proposal amounted to \$16,664.50. Work completed Aug. 3, 1935. Expenditure during 1935, \$18,599.88.

*Natick*

June 25, 1935, contract made with M. E. Hennessy, of Brookline, for furnishing and planting trees, shrubs and vines at the junction of the Boston-Worcester Turnpike and North Main Street in Natick. The proposal amounted to \$4,984.55. Work completed Oct. 22, 1935. Expenditure during 1935, \$5,020.19.

*Montague*

July 16, 1935, contract made with Carlo Bianchi and Company, of Framingham, for constructing a reinforced concrete bridge over Saw Mill River, a plate girder bridge under the Central Vermont Railway, and a steel plate girder bridge of three spans over the Central Vermont Railway and Boston and Maine Railroad, on the State highway, known as Federal Street. The proposal amounted to \$104,021.25. Work about four-fifths completed. Expenditure during 1935, \$82,820.60.

*Montague*

July 16, 1935, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing about 24,133 feet of State highway on Federal Street, Montague Road and new location; the surface consisting of bituminous macadam. The proposal amounted to \$165,138.50. Work about three-eighths completed. Expenditure during 1935, \$60,203.60.



*Otis-Blandford*

July 16, 1935, contract made with Kelleher Corporation, of Montague, for constructing about 14,130 feet of State highway on Monterey Road and 4,202 feet of State highway on Blandford Road in Otis, and about 192 feet of State highway on Otis Road in Blandford; the surface consisting of stone mixed in place with tar. The proposal amounted to \$59,718.50. Work about three-fourths completed. Expenditure during 1935, \$52,699.61.

*Blandford*

July 16, 1935, contract made with Lindholm Construction Co., Inc., of Pittsfield, for reconstructing about 10,310 feet of State highway on the Otis Road; the surface consisting of bituminous macadam; the proposal amounted to \$45,886.00. Work completed Oct. 26, 1935. Expenditure during 1935, \$44,751.99.

*Millbury*

Sept. 4, 1935, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing and reconstructing about 11,558 feet of State highway on Uxbridge Road and new location, including the construction of a steel stringer bridge of one span with reinforced concrete deck over Blackstone River, and the construction of a steel stringer and reinforced concrete beam bridge of six spans over the New York, New Haven and Hartford Railroad. The surface of the roadway consisting of reinforced concrete pavement. The proposal amounted to \$359,716.10. Work about one-third completed. Expenditure during 1935, \$113,897.51.

*Lowell-Dracut-Methuen*

Oct. 2, 1935, contract made with Ellsworth H. Lewis, of Andover, for constructing sidewalks and miscellaneous work. The proposal amounted to \$50,774.05. Work about four-fifths completed. Expenditure during 1935, \$51,458.00.

*Bourne*

Oct. 8, 1935, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for reconstructing about 1,175 feet of State highway on the road leading from the ramp near Sagamore Bridge; the surface consisting of penolithic pavement. The proposal amounted to \$10,393.75. Work about four-fifths completed. Expenditure during 1935, \$8,841.57.

## EXPENDITURES FOR CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various counties during the year were: —

Barnstable . . .	\$159,686.26	Middlesex . . .	\$366,413.38
Berkshire . . .	102,984.87	Norfolk . . .	513,756.86
Bristol . . .	19,106.85	Plymouth . . .	64,839.86
Essex . . .	938,718.68	Suffolk . . .	708,682.14
Franklin . . .	209,048.88	Worcester . . .	366,872.95
Hampden . . .	65,307.28		
Hampshire . . .	340.44	Total	\$3,515,758.45

Details of the foregoing expenditures follow: —

*Barnstable County.* — Bourne, \$148,669.11; Dennis, \$426.93; Yarmouth, \$10,590.22.

*Berkshire County.* — Cheshire, \$30.62; Great Barrington, \$62.12; Lenox, \$8,012.89; No. Adams, \$2,975.55; Otis, \$88,933.58; Richmond, \$327.01; Sheffield, \$2,530.39; Williamstown, \$112.71.

*Bristol County.* — Fairhaven, \$17,011.94; North Attleboro, \$439.09; Rehoboth, \$244.93; Seekonk, \$244.93; Swansea, \$278.10; Taunton, \$887.86.

*Essex County.* — Amesbury, \$1,318.31; Andover, \$175,227.86; Haverhill, \$50,693.16; Lynn, \$116.91; Newbury, \$325.81; Newburyport, \$710,075.14; Salisbury, \$961.49.

*Franklin County.* — Montague, \$180,148.23; Orange, \$28,900.65.

*Hampden County.* — Blandford, \$618.66; Brimfield, \$52.27; Southwick, \$82.22; Westfield, \$64,554.13.

*Hampshire County.*—Huntington, \$340.44.

*Middlesex County.*—Arlington, \$97,509.64; Belmont, \$13,935.70; Billerica, \$34,677.63; Cambridge, \$22,422.93; Chelmsford, \$59,708.96; Concord, \$2,812.45; Framingham, \$34,555.62; Lexington, \$324.18; Medford, \$32.33; Natick, \$44,098.71; Newton, \$56,206.85; Tyngsborough, \$128.38.

*Norfolk County.*—Bellingham, \$210.71; Brookline, \$162,429.52; Cohasset, \$4,206.20; Dedham, \$235,560.55; Foxborough, \$249.93; Needham, \$2,449.26; Norwood, \$1,796.20; Stoughton, \$1,004.65; Wellesley, \$104,435.26; Westwood, \$1,414.58.

*Plymouth County.*—Hingham, \$7,256.92; Marshfield, \$4,536.13; Scituate, \$11,176.50; Wareham, \$41,870.31.

*Suffolk County.*—Boston, \$238,315.95; Revere, \$470,366.19.

*Worcester County.*—Ashburnham, \$305.40; Athol, \$127,366.98; Auburn, \$4,898.52; Charlton, \$251.30; Dudley, \$612.31; Millbury, \$114,734.63; Northboro, \$13,755.60; Oxford, \$367.39; Southborough, \$489.85; Shrewsbury, \$1,867.02; Sterling, \$434.69; Sturbridge, \$676.97; Uxbridge, \$363.79; Webster, \$428.62; Worcester, \$100,319.88.

Fore River Bridge, Quincy	\$1,014,660.38
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Total Construction Expenditures	\$4,530,418.83
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# HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

In accordance with the provisions of Chapter 380 of the Acts of 1934, as amended by Chapter 368 of the Acts of 1935, the following contract was entered into:—

## *Boston-Brookline*

Sept. 24, 1935, contract made with Coleman Bros. Corporation, of Boston, for constructing a highway grade separation, including the construction of a steel rigid frame bridge encased in concrete with stone facing in Boston over Huntington Avenue, and two reinforced concrete bridges over Muddy River in Boston and Brookline; the surface consisting of bituminous concrete. The proposal amounted to \$344,891.00. Work about one-seventh completed. Expenditure during 1935, \$51,000.42.

In accordance with the provisions of Chapter 341 of the Acts of 1934, the following contract was entered into:

## *Boston*

Sept. 24, 1935, contract made with J. J. Callahan, of Boston, for constructing a traffic circle; the surface consisting of penolithic pavement. The proposal amounted to \$14,898.15. Work practically completed. Expenditure during 1935, \$14,445.59.

In accordance with the provisions of Chapter 249 of the Acts of 1935, the following contract was entered into:

## *Rutland*

Nov. 12, 1935, contract made with the Middlesex Construction Company, of Framingham, for construction about 6,410 square yards of mixed in place surface and about 3,310 square yards of premixed surface on the grounds of the Rutland Sanatorium. The proposal amounted to \$10,009.00. Work not yet commenced.

# TRAFFIC CONTROL SIGNALS

The following contracts were entered into during the year for furnishing and installing traffic control signals in various municipalities:—

## *Newburyport*

Dec. 24, 1934, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$582.25. Work completed Mar. 27, 1935. Expenditure during 1935, \$582.25.

## *Auburn*

Dec. 26, 1934, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$2,190.99. Work completed Mar. 8, 1935. Expenditure during 1935, \$2,190.99.



*Revere*

Dec. 26, 1934, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$1,639.04. Work completed July 22, 1935. Expenditure during 1935, \$1,639.04.

*Brookline*

Jan. 8, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$9,121.07. Work completed Mar. 26, 1935. Expenditure during 1935, \$9,121.07.

*Concord*

Feb. 5, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$2,837.06. Work completed April 3, 1935. Expenditure during 1935, \$2,837.06.

*West Boylston*

April 16, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$1,705.89. Work completed May 9, 1935. Expenditure during 1935, \$1,705.89.

*Concord-Lincoln*

April 16, 1935, contract made with the Eagle Signal Corporation, of Newton. The proposal amounted to \$8,514.86. Work completed June 15, 1935. Expenditure during 1935, \$8,567.97.

*Arlington-Belmont*

April 23, 1935, contract made with The Gamewell Company, of Newton. The proposal amounted to \$2,309.00. Work completed June 20, 1935. Expenditure during 1935, \$2,309.00.

*Arlington-Belmont-Lincoln-Lexington*

May 14, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$10,213.23. Work completed June 22, 1935. Expenditure during 1935, \$10,213.23.

*Boston-Dedham*

Nov. 5, 1935, contract made with the Eagle Signal Corporation, of Springfield. The proposal amounted to \$5,196.15. Work just commenced.

*Medford*

Nov. 26, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$1,153.00. Work not yet commenced.

## ELIMINATION OF GRADE CROSSINGS

The following contracts were entered into during the year under the provisions of Section 70, Chapter 159, of the General Laws, Ter. Ed., as amended by Section 1, Chapter 357, of the Acts of 1934: —

*Waltham*

Nov. 12, 1935, contract made with H. L. Hauser Co., Inc., of Boston, for constructing the substructure for a steel stringer bridge over the Boston and Maine Railroad, and approaches thereto; the surface of the approaches consisting of two reinforced cement concrete parallel roadways each 30 feet in width, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$147,951.10. Work just commenced. Expenditure during 1935, \$867.00.

*Waltham*

Nov. 12, 1935, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for furnishing, fabricating and erecting the superstructure of a steel stringer bridge over the Boston and Maine Railroad. The proposal amounted to \$36,017.43. Work not yet commenced.

*Weymouth*

Nov. 26, 1935, contract made with Bradford Weston, of Hingham, for constructing a steel plate girder bridge over the New York, New Haven & Hartford Railroad, and the approaches thereto, on Main Street; the surface of the approaches consisting of bituminous macadam and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$94,627.90. Work not yet commenced.

*Newbury-Newburyport*

Nov. 26, 1935, contract made with M. McDonough Co., of Saugus, for constructing a steel plate girder bridge over the Boston and Maine Railroad on the Newburyport Turnpike, and approaches thereto; the surface of the approaches consisting of two reinforced cement concrete parallel roadways, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$262,428.20. Work not yet commenced.

## CONTRACTS

## EMERGENCY PUBLIC WORKS

*Holyoke*

Jan. 8, 1935, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing a section of highway and a steel plate girder bridge on Northampton Street; the surface consisting of reinforced cement concrete. The proposal amounted to \$153,945.55. Work completed October 1, 1935. Expenditure during 1935, \$144,834.95.

*Braintree-Quincy*

Jan. 8, 1935, contract made with Bradford Weston, of Hingham, for reconstructing 17,154 feet of State highway on Washington Street and Franklin Street in Braintree and Willard Street in Quincy; the surface consisting of bituminous concrete. The proposal amounted to \$135,896.55. Work completed Nov. 12, 1935. Expenditure during 1935, \$176,060.47.

The following contracts were entered into for secondary roads in various municipalities; the Federal Government paying 100% of the cost of construction:

*Westfield*

Mar. 5, 1935, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 3,575 feet of highway on Main Street; the surface consisting of reinforced cement concrete. The proposal amounted to \$48,377.25. Work completed July 12, 1935. Expenditure during 1935, \$52,001.11.

*Haverhill*

May 21, 1935, contract made with R. G. Watkins & Son, Inc., of Amesbury, for reconstructing about 4,625 feet of highway on Kenoza Avenue; the surface on about 750 feet consisting of reinforced cement concrete, and the surface of the balance of the highway consisting of bituminous macadam. The proposal amounted to \$37,539.85. Work completed July 22, 1935. Expenditure during 1935, \$40,797.44.

*Billerica-Chelmsford*

May 28, 1935, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing about 14,973 feet of highway on Chelmsford Road in Billerica and on Billerica Road in Chelmsford; the surface consisting of penolithic pavement. The proposal amounted to \$78,471.95. Work completed Sept. 21, 1935. Expenditure during 1935, \$85,169.79.

*Andover*

May 28, 1935, contract made with the Central Construction Co., of Lawrence, for constructing about 24,876 feet of highway on Lowell Street; the surface consisting of penolithic pavement. The proposal amounted to \$139,642.60. Work completed Oct. 8, 1935. Expenditure during 1935, \$165,131.17.



EXPENDITURES FOR EMERGENCY PUBLIC WORKS CONSTRUCTION  
Chapter 365, Acts of 1933

Project	City or Town	Amount
R 1	Lynn-Revere	\$748,303 70
R 4	Agawam	5,776 96
R 5-1	Arlington-Belmont-Lexington	137,676 39
R 5-2	Lexington-Lincoln	218,762 69
R 5 3	Lexington	5,832 82
R 7	Braintree-Quincy	156,268 73
R 8	Brookline	90,555 54
R 12	Lawrence-North Andover	10,811 28
R 13	Otis	21,186 96
R 14	Palmer	9,124 71
R 16	Revere (North Shore Road)	21,400 00
R 17	Saugus	2,427 93
R 22	Blandford-Russell	71,822 05
R 26	Charlemont	328,433 57
R 27	Charlton-Sturbridge	33,916 77
R 29-1	Concord-Lincoln	91,164 65
R 29-2	Concord By-Pass	170,954 63
R 32	Easton-Raynham-Taunton	43,509 85
R 33	Fitchburg-Ashby	62,043 35
R 34	Essex-Gloucester	66,165 69
R 35	Great Barrington	4,250 61
R 38	Hatfield-Northampton	37,794 03
R 39	Revere (Route 1A)	288,146 15
R 40	Richmond	10,125 57
R 43	Sterling-Leominster	37,639 71
R 44	Brimfield-Sturbridge	48,624 77
R 48	Holyoke	156,347 90
R 49	Charlton-East Brookfield	58,069 65
R 51	Braintree-Randolph	131,476 52
R 54	Dennis-Yarmouth	168,840 55
Total		\$3,237,453 73

CHAPTER 464, BOND ISSUE

*Class 1 — Cities and Towns*

The expenditures during the year in various counties were: —

Barnstable	\$30,161.92	Middlesex	\$310,394.49
Berkshire	83,586.74	Nantucket	3,016.12
Bristol	79,066.63	Norfolk	161,634.80
Dukes	5,024.82	Plymouth	54,498.17
Essex	169,476.38	Suffolk	459,317.51
Franklin	64,756.49	Worcester	259,761.40
Hampden	161,852.02	Engineering	171,757.83
Himpshire	60,892.00		
			Total
			\$2,075,197.32

Details of the foregoing expenditures follow:—

*Barnstable County.*—Barnstable, \$5,668.23; Bourne, \$2,340.10; Brewster, \$2,000; Chatham, \$1,421.39; Dennis, \$3,900.00; Eastham, \$2,100.00; Falmouth, \$——; Harwich, \$1,490.73; Mashpee, \$1,350.00; Orleans, \$901.37; Provincetown, \$1,161.39; Sandwich, \$3,350.00; Truro, \$1,500.00; Wellfleet, \$1,800.00; Yarmouth, \$1,178.71.

*Berkshire County.*—Adams, \$2,929.45; Alford, \$950.00; Becket, \$2,900.00; Cheshire, \$2,100.00; Clarksburg, \$700.00; Dalton, \$2,028.08; Egremont, \$1,600.00; Florida, \$2,150.00; Great Barrington, \$2,357.43; Hancock, \$1,500.00; Hinsdale, \$1,750.00; Lanesboro, \$2,100.00; Lee, \$1,334.73; Lenox, \$1,594.73; Monterey, \$2,600.00; Mt. Washington, \$1,000; New Ashford, \$550.00; New Marlboro, \$4,250.00; North Adams, \$6,378.93; Otis, \$2,250.00; Peru, \$1,850.00; Pittsfield, \$16,363.34; Richmond, \$1,600.00; Sandisfield, \$3,950.00; Savoy, \$2,800.00; Sheffield, \$3,850.00; Stockbridge, \$1,300.05; Tyringham, \$1,250.00; Washington, \$2,550.00; West Stockbridge, \$1,800.00; Williamstown, \$——; Windsor, \$3,250.00.

*Bristol County.*—Acushnet, \$970.71; Attleboro, \$——; Berkley, \$2,100.00; Dartmouth, \$3,033.46; Dighton, \$970.71; Easton, \$1,525.40; Fairhaven, \$3,068.13; Fall River, \$——; Freetown, \$2,350.00; Mansfield, \$2,010.74; New Bedford, \$32,588.00; North Attleboro, \$2,790.78; Norton, \$2,850.00; Raynham, \$2,250.00; Rehoboth, \$5,450.00; Seekonk, \$1,334.72; Somerset, \$3,068.13; Swansea, \$1,230.71; Taunton, \$9,984.41; Westport, \$1,490.73.

*Dukes County.*—Chilmark, \$700.00; Edgartown, \$1,144.06; Gay Head, \$——; Gosnold, \$——; Oak Bluffs, \$1,230.71; Tisbury, \$1,300.05; West Tisbury, \$650.00.

*Essex County.*—Amesbury, \$2,669.44; Andover, \$4,593.52; Beverly, \$11,215.13; Boxford, \$2,650.00; Danvers, \$3,622.82; Essex, \$520.02; Georgetown, \$1,750.00; Gloucester, \$10,209.76; Groveland, \$1,500.00; Hamilton, \$1,404.05; Haverhill, \$14,785.94; Ipswich, \$1,820.07; Lawrence, \$27,179.79; Lynn, \$36,592.16; Lynnfield, \$970.71; Manchester, \$2,773.45; Marblehead, \$4,992.20; Merrimac, \$1,550.00; Methuen, \$5,460.22; Middleton, \$1,500.00; Nahant, \$——; Newbury, \$1,900.00; Newburyport, \$3,622.82; North Andover, \$2,409.43; Peabody, \$6,448.26; Rockport, \$1,525.41; Rowley, \$1,550.00; Salem, \$——; Salisbury, \$901.37; Saugus, \$4,194.84; Swampscott, \$6,396.27; Topsfield, \$918.70; Wenham, \$——; West Newbury, \$1,850.00.

*Franklin County.*—Ashfield, \$4,000.00; Bernardston, \$2,000.00; Buckland, \$2,250.00; Charlemont, \$2,450.00; Colrain, \$4,200.00; Conway, \$3,600.00; Deerfield, \$3,700.00; Erving, \$554.69; Gill, \$1,700.00; Greenfield, \$7,245.63; Hawley, \$2,450.00; Heath, \$2,650.00; Leverett, \$1,900.00; Leyden, \$1,950.00; Monroe, \$——; Montague, \$2,617.44; New Salem, \$3,250.00; Northfield, \$3,300.00; Orange, \$1,438.73; Rowe, \$2,000.00; Shelburne, \$2,400.00; Shutesbury, \$1,900.00; Sunderland, \$——; Warwick, \$2,800.00; Wendell, \$2,400.00; Whately, \$2,000.00.

*Hampden County.*—Agawam, \$2,461.43; Blandford, \$3,900.00; Brimfield, \$3,000.00; Chester, \$3,400.00; Chicopee, \$11,041.79; East Longmeadow, \$1,040.04; Granville, \$3,650.00; Hampden, \$1,700.00; Holland, \$1,550.00; Holyoke, \$22,291.58; Longmeadow, \$3,068.12; Ludlow, \$2,201.42; Monson, \$5,050.00; Montgomery, \$1,350.00; Palmer, \$2,288.10; Russell, \$1,022.72; Southwick, \$2,500.00; Springfield, \$73,201.67; Tolland, \$2,000.00; Wales, \$1,250.00; West Springfield, \$6,500.27; Westfield, \$5,234.88; Wilbraham, \$2,150.00.

*Hampshire County.*—Amherst, \$2,496.10; Belchertown, \$5,450.00; Chesterfield, \$2,950.00; Cummington, \$2,450.00; Easthampton, \$2,790.78; Enfield, \$1,850.00; Goshen, \$1,400.00; Granby, \$2,400.00; Greenwich, \$1,950.00; Hadley, \$2,950.00; Hatfield, \$2,300.00; Huntington, \$2,050.00; Middlefield, \$2,050.00; Northampton, \$7,106.96; Pelham, \$1,550.00; Plainfield, \$2,450.00; Prescott, \$1,950.00; South Hadley, \$2,270.76; Southampton, \$2,800.00; Ware, \$1,577.40; Westhampton, \$2,500.00; Williamsburg, \$2,200.00; Worthington, \$3,400.00.

*Middlesex County.*—Acton, \$2,900.00; Arlington, \$15,479.30; Ashby, \$2,800.00; Ashland, \$1,900.00; Ayer, \$953.38; Bedford, \$1,800.00; Belmont, \$12,272.50; Billerica, \$2,478.77; Boxboro, \$1,150.00; Burlington, \$1,700.00; Cambridge, \$47,703.29; Carlisle, \$2,100.00; Chelmsford, \$——; Concord, \$——; Dracut, \$3,100.00; Dunstable, \$1,850.00; Everett, \$18,703.43; Framingham, \$9,117.71; Groton, \$1,352.06; Holliston, \$2,500.00; Hopkinton, \$3,300.00; Hudson, \$1,993.41; Lexington, \$5,546.89; Lincoln, \$832.03; Littleton, \$2,100.00; Lowell, \$28,393.17; Malden, \$——; Marlborough, \$——; Maynard, \$1,906.74; Medford, \$21,026.20; Melrose, \$——; Natick, \$5,321.56; Newton, \$39,157.60; North Reading, \$1,650.00; Pepperell, \$3,450.00; Reading, \$4,212.17; Sherborn, \$2,150.00; Shirley, \$2,300.00; Somerville, \$——; Stoneham, \$3,813.49; Stowe, \$2,150.00; Sudbury, \$3,200.00; Tewksbury, \$2,850.00; Townsend, \$3,500.00; Tyngsboro, \$2,000.00; Wakefield, \$5,633.57; Waltham, \$——; Watertown, \$13,901.90; Wayland, \$——; Westford, \$4,250.00; Weston, \$2,496.10; Wilmington, \$——; Winchester, \$7,696.32; Woburn, \$5,702.90.

*Nantucket County.*—Nantucket, \$3,016.12.

*Norfolk County.*—Avon, \$554.69; Bellingham, \$2,200.00; Braintree, \$7,020.29; Brookline, \$37,718.88; Canton, \$2,270.76; Cohasset, \$2,461.44; Dedham, \$6,448.27; Dover, \$1,196.05; Foxboro, \$1,542.73; Franklin, \$2,444.10; Holbrook, \$936.04; Medfield, \$2,050.00; Medway, \$2,250.00; Millis, \$2,100.00; Milton, \$9,221.71; Needham, \$6,170.92; Norfolk, \$2,050.00; Norwood, \$6,638.94; Plainville, \$1,600.00; Quincy, \$31,998.65; Randolph, \$1,646.73; Sharon, \$1,594.73; Stoughton, \$2,496.10; Walpole, \$3,709.49; Wellesley, \$9,273.71; Westwood, \$1,282.72; Weymouth, \$11,804.48; Wrentham, \$953.37.



*Plymouth County.*—Abington, \$1,594.73; Bridgewater, \$1,629.40; Brockton, \$——; Carver, \$3,350.00; Duxbury, \$1,716.07; East Bridgewater, \$1,352.06; Halifax, \$1,700.00; Hanover, \$1,005.38; Hanson, \$1,800.00; Hingham, \$3,796.16; Hull, \$——; Kingston, \$1,126.71; Lakeville, \$2,100.00; Marion, \$1,248.05; Marshfield, \$1,802.74; Mattapoisett, \$953.37; Middleborough, \$2,496.10; Norwell, \$2,350.00; Pembroke, \$2,450.00, Plymouth; \$6,344.26; Plympton, \$1,500.00; Rochester, \$2,500.00; Rockland, \$2,270.76; Scituate, \$3,050.79; Wareham, \$3,224.13; West Bridgewater, \$849.37; Whitman, \$2,288.09.

*Suffolk County.*—Boston, \$439,799.38; Chelsea, \$13,104.54; Revere, \$——; Winthrop, \$6,413.59.

*Worcester County.*—Ashburnham, \$3,750.00; Athol, \$3,102.79; Auburn, \$1,681.40; Barre, \$5,500.00; Berlin, \$1,950.00; Blackstone, \$710.70; Bolton, \$2,650.00; Boylston, \$2,000.00; Brookfield, \$1,850.00; Charlton, \$5,500.00; Clinton, \$——; Dana, \$2,150.00; Douglas, \$3,500.00; Dudley, \$3,150.00; East Brookfield, \$950.00; Fitchburg, \$13,624.56; Gardner, \$6,170.92; Grafton, \$3,400.00; Hardwick, \$4,800.00; Harvard, \$2,800.00; Holden, \$3,850.00; Hopedale, \$——; Hubbardston, \$3,750.00; Lancaster, \$2,900.00; Leicester, \$3,300.00; Leominster, \$7,158.96; Lunenburg, \$3,300.00; Mendon, \$1,800.00; Milford, \$4,142.84; Millbury, \$1,698.74; Millville, \$329.35; New Braintree, \$2,450.00; North Brookfield, \$3,450.00; Northborough, \$——; Northbridge, \$2,686.78; Oakham, \$2,250.00; Oxford, \$3,300.00; Paxton, \$1,450.00; Petersham, \$3,500.00; Phillipston, \$2,050.00; Princeton, \$3,600.00; Royalston, \$3,350.00; Rutland, \$3,400.00; Shrewsbury, \$2,374.76; Southborough, \$2,300.00; Southbridge, \$——; Spencer, \$5,000.00; Sterling, \$3,650.00; Sturbridge, \$3,500.00; Sutton, \$4,200.00; Templeton, \$3,150.00; Upton, \$3,000.00; Uxbridge, \$2,132.09; Warren, \$3,550.00; Webster, \$3,068.13; West Boylston, \$1,800.00; West Brookfield, \$2,650.00; Westborough, \$1,265.38; Westminster, \$3,850.00; Winchendon, \$1,577.40; Worcester, \$79,736.60.

#### CHAPTER 464 — BOND ISSUE

##### *Class 2 — Cities and Towns*

The expenditures during the year in various counties were: —

Berkshire . . .	\$11,385.96	Middlesex . . .	\$64,326.80
Bristol . . .	39,547.99	Norfolk . . .	11,157.16
Essex . . .	45,542.79	Plymouth . . .	46,946.44
Franklin . . .	9,274.12	Suffolk . . .	74,579.38
Hampden . . .	17,897.90	Worcester . . .	21,343.60
Hampshire . . .	2.66		
			<hr/>
			Total \$342,004.80

Details of the foregoing expenditures follow: —

*Berkshire County.*—Adams, \$11,385.96.

*Bristol County.*—Dartmouth, \$32,579.30; Somerset, \$6,968.69.

*Essex County.*—Lynn, \$1,350.46; Lynnfield, \$3,087.82; Merrimac, \$11,645.86; Salem, \$20,938.22; Swampscott, \$8,520.43.

*Franklin County.*—Greenfield, \$9,274.12.

*Hampden County.*—Agawam, \$7,376.62; West Springfield, \$10,510.64; Westfield, \$10.64.

*Hampshire County.*—South Hadley, \$2.66.

*Middlesex County.*—Framingham, \$34,210.58; Natick, \$9,333.93; Newton, \$20,782.29.

*Norfolk County.*—Dedham, \$11,157.16.

*Plymouth County.*—Abington, \$9.78; Bridgewater, \$1.06; Hull, \$4,562.97; Middleborough, \$1.06; Rockland, \$23,570.11; Whitman, \$18,801.46.

*Suffolk County.*—Boston, \$44,010.66; Chelsea, \$176.82; Revere, \$30,391.90.

*Worcester County.*—Northborough, \$1,368.23; West Boylston, \$9,984.99; Worcester, \$9,990.38.

#### CHAPTER 464 — BOND ISSUE

*Class 3 — Highway Projects under the Hayden-Cartwright bill, so called.*  
No expenditures.

CHAPTER 464 — BOND ISSUE  
Class 4 — Cities and Towns  
Maintenance

The expenditures during the year in various counties were: —

Barnstable . . . . .	\$21,463.09	Hampshire . . . . .	\$18,548.57
Berkshire . . . . .	46,569.63	Middlesex . . . . .	350,578.91
Bristol . . . . .	143,505.10	Norfolk . . . . .	73,218.21
Dukes . . . . .	1,946.26	Plymouth . . . . .	30,045.23
Essex . . . . .	159,362.47	Suffolk . . . . .	37,574.08
Franklin . . . . .	13,929.36	Worcester . . . . .	76,771.45
Hampden . . . . .	15,205.59		
		Total	\$1,393,329.03

Details of the foregoing expenditures follow: —

*Barnstable County.* — Barnstable, \$1,748.75; Bourne, \$2,632.30; Brewster, \$649.17; Chatham, \$218.18; Dennis, \$793.81; Eastham, \$1,228.25; Falmouth, \$2,000.15; Harwich, \$520.91; Mashpee, \$138.17; Orleans, \$365.71; Provincetown, \$423.02; Sandwich, \$6,123.46; Truro, \$497.43; Wellfleet, \$400.86; Yarmouth, \$3,722.92.

*Berkshire County.* — Adams, \$74.67; Alford, \$——; Becket, \$3,304.95; Cheshire, \$950.73; Clarksburg, \$1,659.85; Dalton, \$735.45; Egremont, \$502.70; Florida, \$9,634.69; Great Barrington, \$5,007.97; Hancock, \$845.63; Hinsdale, \$1,598.01; Lanesboro, \$1,407.57; Lee, \$1,563.16; Lenox, \$999.50; Monterey, \$——; Mt. Washington, \$——; New Ashford, \$193.70; New Marlborough, \$170.58; North Adams, \$2,602.97; Otis, \$909.78; Peru, \$——; Pittsfield, \$1,647.66; Richmond, \$369.06; Sandisfield, \$903.70; Savoy, \$295.65; Sheffield, \$1,493.34; Stockbridge, \$236.57; Tyringham, \$——; Washington, \$428.81; West Stockbridge, \$32.78; Williamstown, \$3,726.24; Windsor, \$5,273.91.

*Bristol County.* — Acushnet, \$20,738.01; Attleboro, \$17,679.94; Berkley, \$236.27; Dartmouth, \$1,222.96; Dighton, \$22,703.44; Easton, \$1,866.66; Fairhaven, \$7,950.05; Fall River, \$——; Freetown, \$966.68; Mansfield, \$403.60; New Bedford, \$——; North Attleboro, \$426.62; Norton, \$1,113.66; Raynham, \$7,374.04; Rehoboth, \$8,462.15; Seekonk, \$38,671.05; Somerset, \$6,451.60; Swansea, \$1,149.42; Taunton, \$2,071.76; Westport, \$4,017.19.

*Dukes County.* — Chilmark, \$490.05; Edgartown, \$475.00; Gay Head, \$368.08; Gosnold, \$——; Oak Bluffs, \$152.73; Tisbury, \$85.75; West Tisbury, \$374.65.

*Essex County.* — Amesbury, \$834.05; Andover, \$4,105.98; Beverly, \$1,405.46; Boxford, \$——; Danvers, \$13,454.38; Essex, \$213.42; Georgetown, \$——; Gloucester, \$12,459.23; Groveland, \$602.38; Hamilton, \$12,201.99; Haverhill, \$2,700.44; Ipswich, \$9,223.75; Lawrence, \$274.30; Lynn, \$11,136.62; Lynnfield, \$2,161.76; Manchester, \$——; Marblehead, \$——; Merrimac, \$705.27; Methuen, \$1,907.73; Middleton, \$25,676.44; Nahant, \$——; Newbury, \$3,842.24; Newburyport, \$1,614.23; North Andover, \$4,303.54; Peabody, \$8,269.79; Rockport, \$211.85; Rowley, \$1,879.39; Salem, \$13,371.18; Salisbury, \$2,322.76; Saugus, \$14,142.94; Swampscott, \$6,256.99; Topsfield, \$2,269.51; Wenham, \$274.41; West Newbury, \$1,540.44.

*Franklin County.* — Ashfield, \$489.18; Bernardston, \$794.44; Buckland, \$390.48; Charlemont, \$787.93; Colrain, \$594.31; Conway, \$356.94; Deerfield, \$940.99; Erving, \$920.74; Gill, \$272.37; Greenfield, \$1,541.72; Hawley, \$——; Heath, \$——; Leverett, \$——; Leyden, \$——; Monroe, \$——; Montague, \$1,067.62; New Salem, \$443.58; Northfield, \$1,206.90; Orange, \$630.99; Rowe, \$——; Shelburne, \$1,376.68; Shutesbury, \$489.64; Sunderland, \$1,335.03; Warwick, \$——; Wendell, \$——; Whately, \$289.82.

*Hampden County.* — Agawam, \$2,635.84; Blandford, \$366.54; Brimfield, \$1,903.48; Chester, \$659.52; Chicopee, \$1,942.44; East Longmeadow, \$340.85; Granville, \$——; Hampden, \$——; Holland, \$——; Holyoke, \$430.91; Longmeadow, \$——; Ludlow, \$——; Monson, \$668.61; Montgomery, \$——; Palmer, \$1,534.19; Russell, \$1,493.16; Southwick, \$113.23; Springfield, \$——; Tolland, \$——; Wales, \$92.99; West Springfield, \$906.47; Westfield, \$1,000.64; Wilbraham, \$1,116.72.



*Hampshire County.*—Amherst, \$1,016.88; Belchertown, \$828.30; Chesterfield, \$———; Cummington, \$1,680.22; Easthampton, \$749.58; Enfield, \$———; Goshen, \$727.09; Granby, \$1,911.15; Greenwich, \$———; Hadley, \$922.31; Hatfield, \$172.14; Huntington, \$804.89; Middlefield, \$———; Northampton, \$1,415.15; Pelham, \$805.78; Plainfield, \$———; Prescott, \$———; South Hadley, \$2,673.69; Southampton, \$1,383.38; Ware, \$1,681.53; Westhampton, \$———; Williamsburg, \$840.16; Worthington, \$936.32.

*Middlesex County.*—Acton, \$32,449.11; Arlington, \$589.03; Ashby, \$23,319.88; Ashland, \$18,259.30; Ayer, \$64.69; Bedford, \$———; Belmont, \$343.41; Billerica, \$4,746.96; Boxboro, \$6,818.99; Burlington, \$1,030.40; Cambridge, \$25.93; Carlisle, \$———; Chelmsford, \$4,076.47; Concord, \$20,718.18; Dracut, \$21,713.09; Dunstable, \$———; Everett, \$———; Framingham, \$8,855.07; Groton, \$32,924.84; Holliston, \$12,205.23; Hopkinton, \$———; Hudson, \$3,329.10; Lexington, \$21,202.72; Lincoln, \$4,624.41; Littleton, \$26,200.49; Lowell, \$53.50; Malden, \$———; Marlborough, \$28,593.20; Maynard, \$———; Medford, \$———; Melrose, \$20.80; Natick, \$1,309.53; Newton, \$3,098.22; North Reading, \$651.10; Pepperell, \$28.00; Reading, \$3,476.81; Sherborn, \$———; Shirley, \$738.71; Somerville, \$549.95; Stoneham, \$1,661.92; Stowe, \$———; Sudbury, \$1,564.96; Tewksbury, \$1,062.61; Townsend, \$3,988.57; Tyngsboro, \$10,284.72; Wakefield, \$———; Waltham, \$243.18; Watertown, \$3,720.31; Wayland, \$7,815.52; Westford, \$21,421.17; Weston, \$2,216.36; Wilmington, \$1,615.86; Winchester, \$240.54; Woburn, \$12,726.07.

*Norfolk County.*—Avon, \$215.54; Bellingham, \$399.03; Braintree, \$7,927.49; Brookline, \$1,665.51; Canton, \$1,864.46; Cohasset, \$508.22; Dedham, \$2,918.68; Dover, \$42.75; Foxborough, \$2,710.42; Franklin, \$446.23; Holbrook, \$8,878.30; Medfield, \$———; Medway, \$———; Millis, \$———; Milton, \$3,590.36; Needham, \$1,797.14; Norfolk, \$109.11; Norwood, \$8,502.80; Plainville, \$1,099.55; Quincy, \$3,358.29; Randolph, \$1,370.30; Sharon, \$380.29; Stoughton, \$4,227.62; Walpole, \$1,897.33; Wellesley, \$4,554.68; Westwood, \$6,601.58; Weymouth, \$4,846.77; Wrentham, \$3,305.76.

*Plymouth County.*—Abington, \$850.50; Bridgewater, \$595.00; Brockton, \$4,632.36; Carver, \$———; Duxbury, \$1,059.31; East Bridgewater, \$543.46; Halifax, \$———; Hanover, \$6,666.51; Hanson, \$———; Hingham, \$3,287.49; Hull, \$29.02; Kingston, \$756.25; Lakeville, \$1,667.50; Marion, \$954.71; Marshfield, \$442.24; Mattapoisett, \$379.43; Middleborough, \$2,502.41; Norwell, \$121.31; Pembroke, \$330.41; Plymouth, \$828.54; Plympton, \$———; Rochester, \$318.22; Rockland, \$202.90; Scituate, \$991.32; Wareham, \$999.70; West Bridgewater, \$1,186.60; Whitman, \$700.04.

*Suffolk County.*—Boston, \$9,809.69; Chelsea, \$38.50; Revere, \$27,725.89.

*Worcester County.*—Ashburnham, \$497.76; Athol, \$671.78; Auburn, \$1,783.17; Barre, \$691.54; Berlin, \$———; Blackstone, \$257.18; Bolton, \$———; Boylston, \$———; Brookfield, \$240.95; Charlton, \$3,087.56; Clinton, \$32.00; Dana, \$———; Douglas, \$171.91; Dudley, \$189.88; East Brookfield, \$300.29; Fitchburg, \$518.55; Gardner, \$288.68; Grafton, \$759.94; Hardwick, \$45.79; Harvard, \$23,776.00; Holden, \$883.56; Hopedale, \$3.80; Hubbardston, \$———; Lancaster, \$2,216.39; Leicester, \$851.82; Leominster, \$1,928.01; Lunenburg, \$649.37; Mendon, \$571.73; Milford, \$322.56; Millbury, \$561.03; Millville, \$65.18; New Braintree, \$44.20; North Brookfield, \$319.50; Northboro, \$1,305.40; Northbridge, \$847.91; Oakham, \$382.09; Oxford, \$683.81; Paxton, \$1,144.43; Petersham, \$799.43; Phillipston, \$575.12; Princeton, \$54.20; Royalston, \$———; Rutland, \$2,268.39; Shrewsbury, \$4,264.93; Southborough, \$2,182.33; Southbridge, \$172.16; Spencer, \$1,044.91; Sterling, \$2,003.09; Sturbridge, \$1,608.25; Sutton, \$614.98; Templeton, \$1,584.39; Upton, \$286.07; Uxbridge, \$1,520.97; Warren, \$898.49; Webster, \$115.77; West Boylston, \$2,200.51; West Brookfield, \$265.94; Westboro, \$2,680.00; Westminster, \$1,478.96; Winchendon, \$553.57; Worcester, \$3,505.22.

CHAPTER 464 — CLASS 4  
*Miscellaneous Expenditures*  
*Snow Removal*

Truck repairs . . . . .	\$17,030.29	
Truck operation . . . . .	7,849.79	
Truck plow repairs . . . . .	25,762.15	
Tractor repairs . . . . .	12,581.11	
Tractor operation . . . . .	7,997.44	
Tractor plow repairs . . . . .	20,486.20	
Snow fence . . . . .	564.06	
Expenditures under towns . . . . .	69,793.46	
		<hr/>
		\$162,064.50

			<i>Traffic</i>	
Direction Signs . . . . .	\$27,782.68			
Warning signs . . . . .	19,828.63			
Control signals . . . . .	21,715.14			
Traffic survey . . . . .	51,409.32			
Regulatory signs . . . . .	2,488.76			
White lines . . . . .	2,080.95			
			<hr/>	
				\$125,305.48
Maps and detour bulletins . . . . .				398.15
Roadside planting . . . . .				9,365.50
Laboratory . . . . .				4,760.65
Paint mfg. . . . .				1,746.87
Engineering . . . . .				130,987.23
Machinery . . . . .				103,886.30
Somerset Bridge . . . . .				3,344.04
Newburyport Bridge . . . . .				11,258.88
Fairhaven-New Bedford Bridge . . . . .				5,140.32
Quincy-Weymouth Bridge . . . . .				4,028.52
Geodetic survey . . . . .				2,432.25
Grade crossings eng. . . . .				1,956.89
			<hr/>	
				\$566,675.58

CHAPTER 464 — BOND ISSUE

*Class 5 — Development of Rivers and Harbors*

The expenditures during the year 1935 were as follows: —

*Boston Harbor*

Commonwealth Pier, No. 5 . . . . .	\$16,434.24	
		<hr/>
		\$16,434.24

*Outside Boston Harbor*

Menamsha Creek-Chilmark . . . . .	\$23,640.97	
Scituate Harbor . . . . .	11,491.67	
Manchester Harbor . . . . .	17,546.79	
Smiths Cove, Gloucester . . . . .	16,054.53	
Plymouth Harbor . . . . .	28,143.46	
Onset Bay, Wareham . . . . .	313.55	
		<hr/>
		97,190.97

Total . . . . .		<hr/>	\$113,625.21
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MAINTENANCE AND REPAIR OF STATE HIGHWAYS  
*(Section 13, Chapter 81, General Laws)*

The expenditures during the year in various counties were: —

Barnstable . . . . .	\$76,926.63	Hampshire . . . . .	\$50,116.49
Berkshire . . . . .	310,169.22	Middlesex . . . . .	1,162,490.96
Bristol . . . . .	346,640.59	Nantucket . . . . .	129.05
Dukes . . . . .	6,084.61	Norfolk . . . . .	277,859.90
Essex . . . . .	605,654.30	Plymouth . . . . .	158,198.42
Franklin . . . . .	75,336.64	Suffolk . . . . .	336,762.91
Hampden . . . . .	267,955.84	Worcester . . . . .	296,103.90
			<hr/>
		Total	\$3,970,429.46



Details of the foregoing expenditures follow:—

*Barnstable County.*—Barnstable, \$4,499.77; Bourne, \$20,546.21; Brewster, \$1,239.55; Chatham, \$1,605.14; Dennis, \$947.73; Eastham, \$2,439.36; Falmouth, \$8,862.98; Harwich, \$901.45; Mashpee, \$1,435.81; Orleans, \$938.25; Provincetown, \$1,723.54; Sandwich, \$8,652.45; Truro, \$2,585.74; Wellfleet, \$1,260.85; Yarmouth, \$19,287.80.

*Berkshire County.*—Adams, \$1,587.23; Becket, \$10,153.18; Cheshire, \$172,736.79; Clarksburg, \$1,792.80; Dalton, \$2,109.48; Egremont, \$1,540.05; Florida, \$4,586.29; Great Barrington, \$8,278.75; Hancock, \$2,109.67; Hinsdale, \$2,018.16; Lanesborough, \$2,915.70; Lee, \$5,722.41; Lenox, \$2,246.70; New Ashford, \$316.38; New Marlborough, \$19.25; No. Adams, \$50,249.92; Otis, \$1,977.75; Pittsfield, \$4,399.95; Richmond, \$1,416.09; Sandisfield, \$1,748.98; Savoy, \$906.95; Sheffield, \$8,584.02; Stockbridge, \$4,510.63; Washington, \$1,003.60; West Stockbridge, \$154.29; Williamstown, \$13,632.66; Windsor, \$3,451.54.

*Bristol County.*—Acushnet, \$1,798.45; Attleboro, \$2,508.85; Berkley, \$1,960.35; Dartmouth, \$3,678.09; Dighton, \$38,229.46; Easton, \$5,581.79; Fairhaven, \$9,968.75; Freetown, \$3,982.92; Mansfield, \$2,380.90; North Attleboro, \$3,025.16; Norton, \$6,816.40; Raynham, \$17,175.51; Rehoboth, \$11,830.29; Seekonk, \$28,809.25; Somerset, \$51,479.80; Swansea, \$80,977.66; Taunton, \$15,657.31; Westport, \$60,779.65.

*Dukes County.*—Chilmark, \$1,427.58; Edgartown, \$1,265.65; Gay Head, \$633.88; Oak Bluffs, \$290.79; Tisbury, \$571.59; West Tisbury, \$1,895.12.

*Essex County.*—Amesbury, \$3,905.88; Andover, \$15,510.22; Beverly, \$6,531.93; Danvers, \$50,095.18; Essex, \$6,345.22; Gloucester, \$36,915.68; Groveland, \$1,562.01; Hamilton, \$25,599.51; Haverhill, \$5,735.93; Ipswich, \$10,367.35; Lawrence, \$1,284.82; Lynn, \$29,839.32; Lynnfield, \$3,612.29; Merrimac, \$1,613.42; Methuen, \$166,369.48; Middleton, \$55,561.48; Newbury, \$10,518.37; Newburyport, \$6,194.29; North Andover, \$17,165.88; Peabody, \$10,805.69; Rockport, \$702.93; Rowley, \$16,983.86; Salem, \$37,028.13; Salisbury, \$5,844.03; Saugus, \$31,109.30; Swampscott, \$31,503.40; Topsfield, \$4,527.15; Wenham, \$1,709.67; West Newbury, \$10,711.88.

*Franklin County.*—Ashfield, \$1,478.95; Bernardston, \$1,801.07; Buckland, \$3,910.16; Charlemont, \$5,154.32; Colrain, \$1,007.74; Conway, \$1,685.40; Deerfield, \$32,146.12; Erving, \$3,468.16; Gill, \$1,262.37; Greenfield, \$5,088.45; Montague, \$1,143.77; New Salem, \$1,286.09; Northfield, \$4,204.59; Orange, \$957.34; Shelburne, \$3,794.94; Shutesbury, \$1,665.55; Sunderland, \$2,833.18; Whately, \$2,448.44.

*Hampden County.*—Agawam, \$8,252.01; Blandford, \$59,069.50; Brimfield, \$6,701.21; Chester, \$22,685.03; Chicopee, \$5,738.48; East Longmeadow, \$326.94; Holland, \$40.51; Holyoke, \$1,233.45; Monson, \$1,003.18; Palmer, \$5,965.57; Russell, \$2,723.33; Southwick, \$144,236.98; Springfield, \$2,581.25; Tolland, \$107.07; Wales, \$653.33; West Springfield, \$2,025.63; Westfield, \$2,424.39; Wilbraham, \$2,187.98.

*Hampshire County.*—Amherst, \$2,689.88; Belchertown, \$1,674.52; Cummington, \$3,914.32; Easthampton, \$1,261.93; Goshen, \$2,995.94; Granby, \$3,260.71; Hadley, \$2,202.18; Hatfield, \$3,762.62; Huntington, \$4,251.89; Northampton, \$6,370.52; Pelham, \$543.71; South Hadley, \$6,411.68; Southampton, \$3,627.66; Ware, \$4,410.63; Williamsburg, \$1,810.24; Worthington, \$928.06.

*Middlesex County.*—Acton, \$47,302.46; Arlington, \$9,360.20; Ashby, \$24,798.27; Ashland, \$29,572.91; Ayer, \$855.46; Bedford, \$164.05; Belmont, \$1,271.49; Billerica, \$10,937.97; Boxborough, \$3,705.41; Burlington, \$16,427.63; Cambridge, \$1,008.20; Chelmsford, \$24,933.15; Concord, \$48,025.81; Dracut, \$311,104.39; Framingham, \$53,202.08; Groton, \$13,763.65; Holliston, \$43,348.11; Hudson, \$16,023.71; Lexington, \$28,257.06; Lincoln, \$19,963.20; Littleton, \$55,591.19; Lowell, \$94,946.35; Marlborough, \$48,004.68; Medford, \$910.73; Melrose, \$603.70; Natick, \$6,347.93; Newton, \$24,469.11; North Reading, \$1,393.27; Pepperell, \$2,502.64; Reading, \$3,690.72; Shirley, \$996.66; Somerville, \$605.73; Stoneham, \$831.28; Sudbury, \$18,731.39; Tewksbury, \$21,406.68; Townsend, \$3,630.42; Tyngsboro, \$20,772.11; Waltham, \$712.92; Watertown, \$1,335.41; Way-

land, \$10,986.68; Westford, \$45,352.27; Weston, \$13,812.07; Wilmington, \$8,-488.55; Winchester, \$18,443.37; Woburn, \$53,899.89.

*Nantucket County.* — Nantucket, \$129.05.

*Norfolk County.* — Avon, \$690.18; Bellingham, \$765.74; Braintree, \$28,032.98; Brookline, \$9,177.77; Canton, \$44,592.84; Cohasset, \$1,598.37; Dedham, \$11,-848.59; Dover, \$474.84; Foxboro, \$1,879.48; Franklin, \$899.97; Holbrook, \$2,-852.26; Milton, \$23,425.97; Needham, \$5,260.39; Norfolk, \$375.79; Norwood, \$29,701.74; Plainville, \$2,877.42; Quincy, \$3,918.14; Randolph, \$11,559.80; Sharon, \$544.80; Stoughton, \$37,521.06; Walpole, \$3,906.43; Wellesley, \$12,-328.66; Westwood, \$8,463.45; Weymouth, \$28,903.06; Wrentham, \$6,260.17.

*Plymouth County.* — Abington, \$2,770.76; Bridgewater, \$1,927.05; Brockton, \$2,605.64; Duxbury, \$1,770.56; East Bridgewater, \$1,517.17; Hanover, \$6,309.72; Hingham, \$7,768.38; Hull, \$385.44; Kingston, \$870.13; Lakeville, \$4,828.24; Marion, \$1,155.01; Marshfield, \$3,131.04; Mattapoisett, \$2,558.70; Middlebor-ough, \$6,526.87; Norwell, \$507.11; Pembroke, \$1,109.77; Plymouth, \$3,185.54; Rochester, \$869.26; Rockland, \$532.57; Scituate, \$5,364.61; Wareham, \$99,-105.11; West Bridgewater, \$2,798.90; Whitman, \$600.84.

*Suffolk County.* — Boston, \$164,456.94; Chelsea, \$8,964.86; Revere, \$163,341.11.

*Worcester County.* — Ashburnham, \$2,002.50; Athol, \$1,121.06; Auburn, \$10,-743.60; Barre, \$3,032.47; Blackstone, \$534.74; Brookfield, \$644.92; Charlton, \$10,675.10; Douglas, \$298.47; Dudley, \$2,221.09; East Brookfield, \$813.50; Fitch-  
burg, \$3,461.29; Gardner, \$1,281.43; Grafton, \$3,786.55; Hardwick, \$279.44; Harvard, \$27,202.80; Holden, \$2,604.35; Hopedale, \$119.75; Lancaster, \$1,822.46; Leicester, \$5,224.93; Leominster, \$3,890.62; Lunenburg, \$3,258.19; Mendon, \$1,-154.37; Milford, \$1,560.66; Millbury, \$30,713.89; Millville, \$223.24; New Brain-  
tree, \$38.26; North Brookfield, \$474.76; Northborough, \$9,865.83; Northbridge, \$3,833.88; Oakham, \$475.42; Oxford, \$4,999.05; Paxton, \$2,944.26; Petersham, \$3,743.03; Phillipston, \$514.36; Princeton, \$320.98; Rutland, \$30,339.58; Shrews-  
bury, \$7,491.08; Southborough, \$5,720.66; Southbridge, \$248.24; Spencer, \$965.69; Sterling, \$40,312.60; Sturbridge, \$6,552.87; Sutton, \$1,593.53; Temple-  
ton, \$20,489.93; Upton, \$1,221.87; Uxbridge, \$2,252.65; Warren, \$2,471.27; Webster, \$1,205.62; Westborough, \$8,083.59; West Boylston, \$7,721.09; West  
Brookfield, \$931.00; Westminster, \$4,233.83; Winchendon, \$1,579.01; Worcester, \$6,808.54.

Miscellaneous expenditures are as follows: —

<i>Snow Removal</i>		
Truck repairs . . . . .	\$8,035.67	
Truck operation . . . . .	49,130.96	
Truck plow repairs . . . . .	57,880.92	
Tractor repairs . . . . .	3,387.34	
Tractor operation . . . . .	47,737.30	
Tractor plow repairs . . . . .	50,267.68	
Snow fence . . . . .	896.60	
Expenditures under towns . . . . .	722,979.84	
		<hr/>
		\$940,316.31
<i>Traffic</i>		
White lines . . . . .	\$5,898.55	
E. R. A. . . . .	5,949.20	
Warning signs . . . . .	18,807.79	
Direction signs . . . . .	41,170.47	
Regulatory signs . . . . .	2,134.03	
Control signals . . . . .	37,898.67	
Traffic survey . . . . .	28,287.22	
Traffic permits . . . . .	322.05	
		<hr/>
		\$140,467.98



*Bridges*

Somerset Bridge . . . . .	\$9,988.38	
Newburyport Bridge . . . . .	4,691.92	
Fairhaven-New Bedford Bridge . . . . .	11,743.88	
Quincy-Weymouth Bridge . . . . .	19,834.72	
		<hr/>
		\$46,258.90
Detour bulletins . . . . .		2,412.64
Geodetic survey . . . . .		3,419.56
Safety advertising . . . . .		2,000.00
		<hr/>
Total of miscellaneous expenditures . . . . .		\$1,134,875.39

*Summary of Maintenance Expenditures*

Maintenance and repair of State Highways . . . . .	\$3,970,429.46
Miscellaneous expenditures . . . . .	1,134,875.39
	<hr/>
Total . . . . .	\$5,105,304.85

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The co-operation of the Department with officers of cities, towns and counties, in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,848 miles of highways on the principal routes of travel, 1,668 miles of which are State highways and 180 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$1,102,380.81, which includes the cost of maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces.

TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

The work of bringing about uniformity in traffic signs, lights, markings, signal systems and regulations as provided by Chapter 85, Section 2 and Chapter 89, Sections 8 and 9 of the General Laws, Tercentenary Edition, has been carried on by the Department of Public Works as in previous years.

Under the provisions of these statutes certain duties are placed upon the Department in relation to the erecting of these traffic signs, etc., and particular jurisdiction is granted over like signs, etc., erected by others.

In the first instance, the Department is required to erect on all numbered routes such signs, etc., as it may deem necessary for promoting the public safety and convenience. It may also, in its discretion, designate any way as a "Through Way."

TRAFFIC SIGNS, SIGNALS, ETC., ERECTED BY DEPARTMENT

Accordingly, the Department has, during the past year, erected those signs, etc., and designated such "Through Ways" as are shown in the table below:

Traffic signals . . . . .	20
Traffic beacons . . . . .	24
Traffic signs . . . . .	18,241
Traffic markings (in miles) . . . . .	544
Through ways . . . . .	3

The erection or designation of the foregoing was based upon accident analyses, traffic counts and speed checks. It is only through a close study of these that the need for warning or control can be accurately gauged.

DIRECTIONAL SIGNS AND ROUTE MARKERS ERECTED BY DEPARTMENT

Still other signs have been erected under the provisions of the first-named chapter. These are known as directional signs. Posted at or within intersections, these serve to direct the motorist to adjacent, contiguous and even remote towns.

Travel has been further facilitated by the opening of new routes and the marking of these with button signs which notify the motorist upon which route he is traveling.

The fabricating and painting of these signs are done at the Department's traffic shop.

TRAFFIC CONTROL SIGNALS, SIGNS AND REGULATIONS APPROVED BY DEPARTMENT

The provisions of the several chapters already referred to also make the validity of regulations made, or signs, etc., erected, by cities and towns upon ways within their control, dependent upon the written approval of the Department of Public Works. The same sanction is required for Through Ways which may be designated by these municipalities.

As a means of aiding the municipalities in this respect, the Department assigns its engineers to make studies, and to give advice to those cities and towns which desire to control vehicular traffic through the medium of regulations and signs.

This resulted during the past year in the Department's approving the following traffic control features:

Traffic signals . . . . .	17
Traffic beacons . . . . .	3
Traffic signs and markings . . . . .	15
Traffic rules and regulations . . . . .	98
Isolated stop signs . . . . .	132
Through ways . . . . .	8
Safety zones . . . . .	1

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-nine years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

The Department has organized and trained a group of men under competent supervision to have charge of this work, not only for the removal and trimming of trees, brush and undesirable growth, but also for the selection and planting of new growth suitable for the locations. The removal of trees and brush that may obstruct vision at curves, intersections or other points on the highway is done to insure that operating conditions shall be as safe as possible and unnecessary growth is cleared out in order to afford attractive vistas at many scenic locations. For the protection of the roadside trees the Department has maintained a corps of inspectors to supervise the trimming that may be necessary for the construction of light and power transmission lines. In connection with this work a Nursery is maintained at Sudbury where most of the trees and shrubs for use on the highways of Massachusetts are grown and made available for use by the Department. Strict supervision of the tree trimming by the Public Service Corporations is maintained, thus preserving the natural beauty of our roadsides as much as possible and still allowing the Public Service Corporations to extend their services.



During the year planting has been done as follows:

3,710 trees	2,229 evergreens
7,419 shrubs	950 small pines
1,997 vines	

Through co-operation with the United States Bureau of Public Roads, Federal funds under the provisions of the National Recovery Act have been made available for planting along State highways at locations selected and approved in the towns of Lenox, Sheffield, Northborough, Natick and Framingham.

Also, the Department has acted as sponsor for roadside beautification projects carried out with Federal funds made available under the Federal Emergency Relief Administration of Massachusetts.

The Department submitted a total of 263 projects for roadside beautification along the State highways throughout the Commonwealth.

SIDEWALKS ALONG STATE HIGHWAYS  
*State Bond Issue and Federal W.P.A. Allotments*

The Bond Issue legislation, Chapter 464, Acts of 1935, authorized the expenditure of \$4,000,000 for sidewalk construction along State highways, and acting under the authority of this Act, the Department has requested the Federal Government to co-operate in this work, and projects have been submitted by the Department to the Works Progress Administration for its approval.

It is intended that the Federal Government will undertake the grading and drainage, and the Commonwealth will provide the hard surface and curbing for these sidewalks. The Department has in progress at the end of the year, work totalling 44 miles of sidewalks at an expenditure to the end of this year amounting to \$310,162.64.

FARM-TO-MARKET ROADS

The Department was also sponsor for the construction and improvement of the so-called Farm-to-Market roads, under the provision of the Works Progress Administration. The projects begun during the latter part of the year total 46, covering a total of 55 miles of road.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the State of Massachusetts in the construction and maintenance of highways, including the Federal Highway Act approved November 9, 1921, may be found in the annual reports for this Department for the years 1920-1927, inclusive.

A detailed statement of Federal Aid allotments and projects for Massachusetts appears in the Department of Public Works Report for the fiscal year 1933. Additions or alterations for the fiscal years 1934 and 1935 and a summary of the several allotments to date appear as follows:

Total amount of regular Federal Aid for the period from June 30, 1916, to June 30, 1933	\$18,523,440.00
In addition to the above, allotments were made as follows:	
1931 "Federal Emergency Advance Funds"	1,141,460.00
1932 "Federal Emergency Relief and Construction Act"	1,716,612.00
1933 "National Recovery Funds"	6,597,100.00
1934 "Hayden-Cartwright Bill" (Act of June 18, 1934)	3,350,474.00
Emergency Relief Appropriation Act of 1935	
Hayden-Cartwright Amendment	\$1,741,877.00
Works Program—Highways	3,262,885.00
Works Program—Grade Crossings	4,210,833.00
	<hr/> 9,215,645.00
Total amount of Federal Allotments to date (This includes all types of Federal Aid)	<hr/> \$40,544,731.00

There were thirteen (13) projects prepared in addition to those shown in the Report of the Department of Public Works for 1934. The length of Federal Aid

Road and Bridge projects in this State, from the commencement of work of this character to November 30, 1935, inclusive, is 1,076.777 miles, an increase of 34.060 miles over 1934. In addition to this there were seven (7) landscaping (roadside improvement) projects prepared totaling 8.670 miles. These were all on old Federal Aid projects.

The total length of Federal Aid projects (1,076.777 miles) divided according to the various counties is as follows:

Barnstable . . . . .	100.820	Hampshire . . . . .	54.300
Berkshire . . . . .	133,254	Middlesex . . . . .	107.647
Bristol . . . . .	87.219	Norfolk . . . . .	88.393
Dukes . . . . .	3.117	Plymouth . . . . .	108.179
Essex . . . . .	87.360	Suffolk . . . . .	4.344
Franklin . . . . .	54.796	Worcester . . . . .	181.077
Hampden . . . . .	66.271		

PROJECTS FINANCED FROM 1933 NATIONAL RECOVERY FUNDS AND REGULAR  
FEDERAL AID FUNDS RELEASED FROM COMPLETED PROJECTS  
SHEET 1

No.	Town-City	Mileage	Reg. Fed. Aid	Nat. Rec. Funds	Total Funds	Amount Received	Balance
NRH 56	Stoughton . . . . .	2.188	-	\$117,194 77	\$117,194 77	\$117,194 77	-
NRH 57(2)	Winchester . . . . .	1.031	\$12,600 00	12,746 42	25,346 42	25,346 42	-
NRM 57(1)	Woburn . . . . .	1.995	14,100 00	14,140 19	28,240 19	28,240 19	-
NRH 57-B	Winchester . . . . .	0.885	14,800 00	18,170 72	32,970 72	32,970 72	-
NRH 78	Burlington . . . . .	3.759	22,500 00	22,671 06	45,171 06	45,171 06	-
NRH 89-A	Easton . . . . .	1.553	-	38,908 87	38,908 87	38,908 87	-
NRH 89-C	Easton . . . . .	1.392	-	40,851 25	40,851 25	40,017 36	-
				(\$833 89 Released)			
NRM 126A	Newburyport . . . . .	1.361	24,976 16	547,399 77	572,375 93	500,023 15	4,975 23 FA 67,377 55 NR
NRM 130B	Auburn . . . . .	0.443	-	105,602 95	105,602 95	87,148 83	18,454 12
NRM 131C	Springfield . . . . .		-	207,919 56	207,919 56	207,487 36	-
	(Force Acct.) . . . . .	3.422	-	(\$432 20 Released)			
NRH 138B	Chester . . . . .	0.307	-	52,686 97	52,686 97	41,223 00	11,463 97
NRH 143B	Fairhaven . . . . .	0.726	-	64,430 41	64,430 41	64,430 41	-
NRM 170C	Quincy- Weymouth (Contracts 1, 2 and 3) . . . . .	0.749	-	1,883,586 65	1,883,586 65	1,641,702 46	241,884 19
NRH 172B	Sterling-West Boylston (In- cludes Traffic Signals) . . . . .	4.337	96,500 00	124,037 32	220,537 32	220,537 32	-
NRH 173C	Lanesboro* . . . . .	0.347	8,000 00	9,983 98	17,983 98	17,983 98	-
NRM 173D	Pittsfield* . . . . .	1.462	23,000 00	30,896 49	53,896 49	53,896 49	-
NRH 174B	Scituate- Marshfield . . . . .	1.168	-	150,757 25	150,757 25	121,745 19	29,012 06
NRH 184A	Charlton . . . . .	2.848	33,900 00	36,210 73	70,110 73	68,675 70	-
				(\$1,435 03 Released)			
NRH 184C	Charlton- Oxford . . . . .	2.609	20,523 83	38,145 29	58,669 12	54,871 55	-
				(\$3,797 57 Released)			
NRH 188F	Ashby-Townsend . . . . .	4.023	16,435 81	117,531 69	133,967 50	133,967 50	-
NRH 189E	Mattapoisett (Force Acct.) . . . . .	1.583	30,000 00	80,642 31	110,642 31	110,642 31	-
NRH 189F	Wareham . . . . .	1.556	25,000 00	32,224 03	57,224 03	57,224 03	-
NRH 194B	Templeton . . . . .	3.002	36,200 00	41,283 82	77,483 82	58,831 75	4,522 75 FA 14,071 86 NR
			(\$57.46 Released from NRH Funds)				
NRH 199C	Newbury* . . . . .	3.047	44,000 00	46,975 44	90,975 44	90,975 44	-
NRM 235B	Brookline- Newton . . . . .	1.089	-	210,478 94	210,478 94	201,168 84	9,310 10
NRH 240B	West Boylston . . . . .	0.594	7,200 00	7,263 08	14,463 08	14,463 08	-
NRM 241A	East Boston- Revere . . . . .	2.294	-	713,586 36	713,586 36	618,514 83	95,071 53
NRM 241B	Revere . . . . .	1.044	-	250,293 28	250,293 28	216,318 30	33,974 98
NRM 242A	Arlington- Belmont- Cambridge . . . . .	1.557	-	599,758 24	599,758 24	517,097 58	82,660 66
NRH 243A	Amesbury . . . . .	0.795	17,984 24	21,836 51	39,820 75	39,820 75	-
NRM 244A	Boston (Hyde Park) . . . . .	0.296	-	37,926 57	37,926 57	37,926 57	-
NRS 245A	Huntington . . . . .	5.313	-	144,633 69	144,633 69	144,633 69	-
NRS 246	Conway- Deerfield . . . . .	6.190	-	235,351 71	235,351 71	197,522 80	37,828 91
NRS 247	Otis . . . . .	3.738	-	102,613 44	102,613 44	93,245 10	9,368 34
NRM 248A	North Adams . . . . .	0.813	-	176,360 52	176,360 52	176,360 52	-
NRM 249	Worcester . . . . .	0.225	-	104,345 23	104,345 23	58,667 06	45,678 17
Totals . . . . .		69.741	\$447,720 04	\$6,436,445 51	\$6,884,165 55	\$6,171,954 98	\$705,654 42
(Total Amount Released)			\$6,556 15)				

\* These projects were not active in 1935. They were complete and final payment received as of November 30, 1934.



STATEMENT OF PROJECTS DONE UNDER THE FEDERAL EMERGENCY RELIEF AND  
CONSTRUCTION ACT  
(These were partly financed by Regular Federal Aid)

No	Town-City	Mileage	Reg. Fed. Aid	Emerg. Con. Fund	Total	Amount Received	Balance
E-12	Ipswich*	2.081	\$16,000 00	\$27,939 83	\$43,939 83	\$43,939 83	-
E-21-A	Hancock-Pittsfield*	2.773	14,000 00	112,866 39	126,866 39	126,866 39	-
E-21-B	Hancock*	1.098	11,000 00	61,965 98	72,965 98	72,965 98	-
E-122-F	Barnstable- Yarmouth*	2.395	20,000 00	61,462 14	81,462 14	81,462 14	-
E-134-D	Oakham	2.656	20,000 00	44,528 59	64,528 59	64,528 59	-
E-170-A	Cohasset-Hingham	3.151	34,273 54	225,038 35	259,311 89	259,311 89	-
E-170-B	Cohasset-Scituate	5.808	50,000 00	149,194 29	199,194 29	199,194 29	-
E-177-D	Yarmouth*	4.818	30,000 00	81,138 24	111,138 24	111,138 24	-
E-211-D	Wellesley (West)*	2.272	40,000 00	203,119 63	243,119 63	243,119 63	-
E-211-E	Wellesley (Ctr.)*	1.108	70,000 00	312,096 18	382,096 18	382,096 18	-
E-235-A	Wellesley (East)*	1.360	35,000 00	91,952 50	126,952 50	126,952 50	-
E-236	Lakeville- Middleboro						
	Raynham-Taunton	6.344	10,000 00	211,797 81	221,797 81	221,797 81	-
E-237-A	Oxford-Webster*	3.374	30,000 00	99,299 97	129,299 97	129,299 97	-
E-238-B	Belchertown*	2.812	20,000 00	34,212 10	54,212 10	54,212 10	-
	Totals	42.050	\$400,273 54	\$1,716,612 00	\$2,116,885 54	\$2,116,885 54	-

\* These projects were not active in 1935. They were complete and final payment received as of November 30, 1934.

PROJECTS FINANCED FROM REGULAR FEDERAL AID FUNDS

Note:—The following are projects that were done in 1933 and 1934. There were no projects under this classification in the fiscal year 1935. Final payment received as of November 30, 1934.

No.	Town-City	Mileage	Federal Funds Allotted	Federal Funds Received
F-106-A	Bourne-Falmouth	6.458	\$78,876 03	\$78,876 03
211-C	Framingham-Natick	4.008	100,200 00	100,200 00
218	Canton-Dedham-Westwood	3.947	177,698 65	177,698 65
226-C	Shrewsbury-Worcester	3.015	86,713 23	86,713 23
229-A	Dedham-Westwood-Needham	3.448	96,488 72	96,488 72
229-B	Needham-Wellesley	3.653	93,783 11	93,783 11
231-B	Dedham-Westwood-Norwood	3.566	150,074 96	150,074 96
	Totals	28.095	\$783,834 70	\$783,834 70

1934 LANDSCAPE (ROADSIDE IMPROVEMENT) PROJECTS

Financed from National Recovery Funds

These projects were active in 1934—Final payments received in 1935.

No.	Town-City	Mileage	Nat. Rec. Allott.	Nat. Rec. Funds Received	Amount Released	Balance
NRH 211-C	Framingham-Natick	4.008	\$3,054 85	\$3,048 97	\$5 88	-
NRH 211-D	Wellesley (West)	2.272	2,070 64	2,060 14	10 50	-
NRH 211-E	Wellesley (Center)	1.108	1,886 84	1,878 27	8 57	-
NRH 211-F	Framingham-Natick	1.595	1,579 11	1,573 81	5 30	-
NRH 218	Canton-Dedham-Westwood	3.947	8,182 41	7,550 02	632 39	-
NRH 229-A	Dedham-Westwood- Needham	3.448	2,674 87	2,674 87	-	-
NRH 229-B	Needham-Wellesley	3.653	5,965 89	5,965 89	-	-
NRH 234-A	Lee-Stockbridge	2.010	4,561 38	4,234 25	327 13	-
NRH 235-A	Wellesley (East)	1.360	3,703 97	3,675 74	28 23	-
NRH 235-C	Wellesley (East)	0.463	510 13	505 88	4 25	-
NRM 235-D	Newton	2.757	5,562 67	5,511 78	50 89	-
	Totals	26.621	\$39,752 76	\$38,679 62	\$1,073 14	-

1935 LANDSCAPE (ROADSIDE IMPROVEMENT) PROJECTS  
Financed from National Recovery Funds

No.	Town-City	Mileage	Funds Alloted	Funds Received	Balance
NRH 98	Sheffield . . . . .	3.052	\$540 10	—	\$540 10
NRH 114	Lenox . . . . .	2.407	8,441 12	—	8,441 12
NRH 137-C	Sheffield . . . . .	1.532	2,110 40	—	2,110 40
NRH 147-A	Lenox . . . . .	0.773	797 50	—	797 50
NRH 211-A	Northboro . . . . .	0.303	12,300 25	—	12,300 25
NRH 211-F	Framingham . . . . .	0.142	2,678 64	—	2,678 64
NRH 211-C	Natick . . . . .	0.151	5,483 00	—	5,483 00
Note:—All of the above projects are on old Federal Aid projects.					
	Totals . . . . .	8.360	\$32,351 01	—	\$32,351 01

1935 PROJECTS FINANCED UNDER THE HAYDEN-CARTWRIGHT BILL

No.	Town-City	Mileage	Allotment	Amount Received	Balance
NRM 69-B	Haverhill . . . . .	0.875	\$43,493 83	\$39,723 96	\$3,769 87
NRM 91	Lowell* . . . . .	0.968	52,248 24	38,599 70	13,648 54
NRH 73	Southwick . . . . .	6.874	134,566 63	114,874 35	19,692 28
NRH 125-C	Bourne-Wareham* . . . . .	1.417	146,040 32	103,391 93	42,648 39
NRH 134-E	Rutland . . . . .	0.833	19,155 95	—	19,155 95
NRM 155-C	Westfield . . . . .	0.677	54,864 97	47,260 40	7,604 57
NRH 173-E	Cheshire . . . . .	2.200	156,661 28	118,388 20	38,273 08
NRH 176-B	Bourne* . . . . .	1.509	85,632 47	66,900 10	18,732 37
NRM 235-E	Boston-Brookline . . . . .	0.079	390,380 10	—	390,380 10
NRS 247-B	Otis-Blandford . . . . .	3.508	67,036 95	55,273 70	11,763 25
NRH 250	Dracut-Methuen* . . . . .	5.941	210,617 41	NR 206,617 41	4,000 00
			51,821 58	FA 50,821 58	1,000 00
NRH 251-A	Dedham* (Not including Sidewalks) . . . . .	1.060	210,346 34	185,698 95	24,647 39
NRM 251-B	Boston* (Not Including Sidewalks) . . . . .	0.656	117,675 52	89,555 40	28,122 12
NRS 252	Blandford . . . . .	1.952	53,368 79	51,919 51	1,449 28
NRS 253	Billerica-Chelmsford (Not Including Sidewalks) . . . . .	2.835	88,679 59	78,839 90	9,839 69
NRS 254	Athol-Orange . . . . .	2.847	156,859 56	—	156,859 56
NRS 255	Andover (Not Including Sidewalks) . . . . .	4.711	157,718 15	152,718 15	5,000 00
NRH 256-A	Millbury . . . . .	2.075	406,101 72	—	406,101 72
NRS 257	Montague . . . . .	4.570	313,669 92	—	313,669 92
	Totals . . . . .	45.587	\$2,916,939 32	\$1,400,581 24	\$1,516,358 08

\* These projects were listed as active projects in the report of November 30, 1934, and were included in the Federal Aid mileage added in the fiscal year 1934.

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR  
*Cities and Towns, Locality and Character of Structure*

- Athol — Seven 24-foot spans, reinforced concrete beams on reinforced concrete pile trestle, total length 168 feet, 40-foot roadway, 5-foot sidewalk, over Millers River. New road.
- Boston — At Brookline line over Muddy River reinforced concrete arch box culvert, 15-foot span.
- Boston — Jamaicaaway over Huntington Avenue, one 110-foot 6-inch span steel rigid frame with stone facing.
- Brookline — 15-foot reinforced concrete arch culvert, over Muddy River.
- Cheshire — North Street over Bassett Brook, one 12-foot span, reinforced concrete arch.
- Dartmouth — Padanaram Bridge over Apponaganset River, 4 spans at 25 feet, 6 spans at 26 feet, 9 inches, 1 swing draw span with 30-foot openings; total length, 417 feet, 9 inches.



- Dedham — Providence Turnpike over Wigwam Brook, 10-foot span, reinforced concrete culvert.
- Dedham — Providence Turnpike over Mother Brook. Four 22-foot spans reinforced concrete beams, total length 96 feet.
- Hadley — Bay Road over Fort River, 8 spans at 15 feet, 6 inches, total length 126 feet, reinforced concrete slab on timber piles.
- Holyoke — Northampton Street, under tracks of N. Y., N. H. & H. R. R., 1 span, 86 feet, through girder.
- Lee — Washington Mountain Road over Brook, one 33-foot span steel stringer with reinforced concrete floor.
- Malden — Medford Street over Malden River, trunnion bascule drawbridge with steel stringer approach, span 52 feet, 6 inches, clear opening; 66 feet center to center bearings.
- Millbury — Worcester Road over Blackstone River, one 60-foot span steel stringer bridge with reinforced concrete floor.
- Millbury — Worcester Road, over tracks of N. Y., N. H. & H. R. R. One 56 feet, 6 inches steel-beam span; one 25-foot span, two 31-foot spans, one 35 feet, 3 inches span, concrete beams; total length 220 feet.
- Millville — Center Street, over Blackstone River. Steel stringer bridge with reinforced concrete floor; two spans at 30 feet, one span at 60 feet.
- Montague — Montague Road, over tracks of Boston and Maine Railroad and Central Vermont Railroad, steel plate girder bridge with concrete floor; one span 46 feet, 6 inches, one span 60 feet, one span 81 feet, 4½ inches.
- Montague — Montague Road, under tracks of Central Vermont Railroad. Through plate girder bridge with wrought iron deck, one span 102 feet, 9¾ inches, center to center bearings.
- Montague — Federal Street, over Saw Mill River, one span 31 feet, 1¾ inches, reinforced concrete beam.
- Newbury — Newburyport Turnpike over tracks of Boston and Maine Railroad. Two steel girders at 85 feet, reinforced concrete beam approaches, total length 470 feet.
- Palmer — Whipple's Bridge over Ware River. Steel stringer bridge, two spans at 44 feet, 6 inches.
- Plymouth — Taylor Avenue over outlet from Bartlett's Pond, 20-foot span reinforced concrete slab.
- Walpole — Washington Street over a spur track of Bird & Son, Inc., 22-foot span steel stringer with reinforced concrete floor.
- Waltham — Main Street over tracks of Boston and Maine Railroad. Through truss bridge, one span 115 feet; two spans at 59 feet, 6 inches, steel stringers, total length 240 feet, reinforced concrete floor.
- Weymouth — Main Street over tracks of New York, New Haven & Hartford Railroad. Through plate girder, reinforced concrete floor, 110-foot span.

#### ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES MADE OR CONTRACTED FOR

- Athol — Over Lake Rohunta Outlet, reinforced concrete arch extension to existing concrete arch, 16-foot span.
- Berkley — At Dighton line, repairs to draw bridge and fender pier over Taunton River.
- Bourne — At Wareham line, Cohasset Narrows Bridge, steel and concrete extension of existing concrete beam bridge.
- Buckland — At Charlemont line, Scott's Bridge over Deerfield River, repairs to abutments and wing walls.
- Dracut — Over Richardson Brook, construction of new fence.
- Fairhaven — At New Bedford line, Brightman Street Bridge, repairs to dolphins and fender piers.
- Greenfield — At Montague line, Montague City Bridge over Connecticut River, repairs to bridge.
- Millville — Center Street over Canal, concrete slab extension to existing stone arch, 21-foot span.

Newbury — Parker River Bridge, removal of pile stubs from river and repair of pier.

Newbury — Newburyport Turnpike over Little River, reinforced concrete beam extension to existing concrete beam bridge, 21-foot span.

# CONTEMPLATED BRIDGES AND STRUCTURES

## *Plans, Studies or Estimates Made*

### *Cities and Towns, Locality and Character of Structure*

Amherst — College Street under tracks of Central Vermont Railway.

Ashburnham — Elimination of Astor House grade crossing.

Attleboro — Washington Street over New Haven Railroad, Reconstruction.

Ayer — Elimination of grade crossing, West Main Street, over Boston and Maine Railroad.

Beverly — Elimination of grade crossing, Paradise Crossing over Boston and Maine Railroad.

Boston — At Milton line, over Neponset River.

Boston — Porter Street over Boston & Albany Railroad.

Boston — Tunnel Road under Prescott Street.

Boston — Tunnel Road under Bennington Street and under Neptune Street.

Boston — Tunnel Road under Saratoga Street.

Brookline — Highway separation at Brookline Village.

Brookline — Highway separation at Cypress Street.

Canton — At Norwood and Westwood lines over Neponset River, reconstruction.

Canton — Dedham Road over New York, New Haven & Hartford Railroad.

Chesterfield — Reconstruction of existing bridge, First Bridge over Stevens Brook.

Chesterfield — Reconstruction of existing bridge, Second Bridge over Stevens Brook.

Clinton — Lancaster Mills Bridge over Nashua River.

Dartmouth — Westport Factory.

Edgartown — Katama Road over Mattakesett Creek.

Fall River — At Somerset line, Slades Ferry Bridge over Taunton River.

Florida — At Savoy line, Mohawk Trail over Cold River.

Foxborough — Cocasset Street under tracks of New York, New Haven and Hartford Railroad.

Gardner — Mechanic Street over tracks of Boston and Maine Railroad.

Grafton — Shrewsbury Street over tracks of Boston & Albany Railroad.

Hatfield — West Street over Mill River, extension of existing bridge.

Holyoke — Northampton Road, culvert extension.

Hopkinton — At Westborough line, Rocklawn Crossing, over Sudbury River and tracks of Boston & Albany Railroad.

Ipswich — Linebrook Road and Newburyport Turnpike, Grade Separation.

Lawrence — Andover Street under Boston and Maine Railroad.

Lincoln — South Great Road over tracks of Boston and Maine Railroad.

Lunenburg — Leominster Road over tracks of Boston and Maine Railroad.

Lynnfield — Newburyport Turnpike over Circumferential Highway.

Manchester — Proposed road over Manchester Harbor.

Mansfield — Elm Street over tracks of New York, New Haven & Hartford Railroad.

Mansfield — Pedestrian underpass under tracks of New York, New Haven & Hartford Railroad.

Millbury — Worcester Road over West Main Street.

Milton — Proposed road over New York, New Haven & Hartford Railroad.

Monroe — Valley Road over Dunbar Brook. Extension to existing bridge.

New Marlborough — Great Barrington Road over Konkapot Brook.

Newton — At Weston line, Northern Circumferential Highway over Charles River.

Newton — At Wellesley line, over Charles River.

North Adams — Williamstown Road over a brook. Widening existing stone arch.

North Andover — Boxford Road over Mosquito Brook.

Peabody — Lowell Street over Newburyport Turnpike.

Peabody — Circumferential Highway over Lowell Street.



Peabody — Circumferential Highway under Andover Street.  
 Pittsfield — Dalton Road over tracks of Boston & Albany Railroad.  
 Randolph — North Street over New Haven (Reconstruction).  
 Revere — Squire Road extension over Boston and Maine Railroad.  
 Rowley — Newburyport Turnpike under Haverhill Street.  
 Salisbury — Elm Street over tracks of Boston and Maine Railroad.  
 Saugus — Newburyport Turnpike over Saugus River, extension of existing bridge.  
 Saugus — Newburyport Turnpike under Main Street.  
 Saugus — Newburyport Turnpike under Walnut Street.  
 Sharon — Depot Street over New York, New Haven & Hartford Railroad.  
 Sheffield — Canaan Road over tracks of New York, New Haven & Hartford Railroad.  
 Southwick — State Highway over Webb Brook; reconstruction.  
 Sudbury — Boston Post Road over Parmenters Mill Pond; reconstruction.  
 Sudbury — Worcester Road over tracks of New York, New Haven & Hartford Railroad.  
 Sutton — Worcester Road over Wilkinsonville Road.  
 Sutton — Worcester-Providence Road over Central Turnpike.  
 Topsfield — Newburyport Pike under Ipswich Road.  
 Weston — Circumferential Highway over South Avenue.  
 Weston — Circumferential Highway over Aqueduct.  
 Williamstown — North Adams Road over Green River; reconstruction.  
 Winchendon — New Boston Road over tracks of Boston and Maine Railroad.  
 Winchendon — Pequoig Crossing, Ashburnham Road over tracks of Boston and Maine Railroad.  
 Winchester — Main Street over outlet of Wedge Pond.  
 Worcester — Barber's Crossing over tracks of Boston and Maine Railroad.  
 Worcester — New Street over Neponset Street.  
 Worcester — Pedestrian underpass under tracks of Boston and Maine Railroad near Barber's Crossing.

*Examinations, Reports, Estimates, etc., at Request of Counties, Cities and Towns*

Amherst — Puffer Mill Bridge over Mill River, estimate for new bridge.  
 Amherst — Meadow Street over Mill River, estimate for new bridge.  
 Amherst — Meadow Street over Podick Brook, estimate for new bridge.  
 Clinton — Lancaster Mills Bridge over Nashua River. Estimate for new bridge.  
 Clinton — West Boylston Street over tracks of Boston and Maine Railroad, question of responsibility for maintenance.  
 Colrain — Griswoldville Bridge over North River. Estimate for repairs and for new bridge.  
 Concord — Red Bridge over Concord River. Estimate for widening.  
 Deerfield — At Sunderland line, over Connecticut River. Estimate for new bridge.  
 Dudley — At Webster line, Pleasant Street over French River. Estimate for repairs.  
 Fall River — Quequechan Street Bridge over Quequechan River. Estimate for a new bridge.  
 Gill — At Montague line, over Connecticut River. Estimate for a new bridge.  
 Greenfield — At Montague line, White Suspension Bridge. Estimate for a new bridge.  
 North Attleborough — Mendon Road over Abbots Run Stream. Estimate for a new bridge.  
 North Attleborough — Adamsdale Road over Abbots Run Stream. Estimate for a new bridge.  
 Pepperell — Covered Bridge over Nashua River. Estimate for a new bridge.  
 Tewksbury — Hall's Bridge over Shawsheen River. Estimate for a new bridge.  
 Tewksbury — Bridge Street over Shawsheen River. Estimate for a new bridge.  
 Warren — Boston Road over Quaboag River. Estimate for a new bridge.  
 Warren — County Road over tracks of Boston & Albany Railroad. Estimate for repairs.

Warren — Main Street over tracks of Boston & Albany Railroad. Estimate for repairs.

Westport — Westport Point Bridge. Estimate for a new bridge.

Winchendon — Old County Road over Millers River. Estimate for a new bridge.

*Bridge Plans Submitted and Examined during the Year under the Provisions of Section 35, Chapter 85, of the General Laws. (Tercentenary Edition.)*

Fall River — Plymouth Avenue over Quequechan River. Creosoted timber pile bridge with reinforced concrete deck, 136 feet long.

Fitchburg — Sawyer Passway connecting First Street Underpass. Foot bridge.

Fitchburg — Water Street near Hardy's Foundry. Foot bridge.

Hamilton — Moulton Street over Miles River. Reinforced concrete culvert, 16-foot span.

Lee — Washington Mountain Road, 33 foot span steel stringer, concrete deck.

Methuen — Oakland Avenue over tracks of Boston and Maine Railroad; 31-foot road, two 6-foot sidewalks, reinforced concrete beam.

Pittsfield — East New Lenox Road over Sacket Brook, steel stringers with reinforced concrete floor.

*Examinations, Reports, Estimates, etc., by direction of the Department*

Adams — Center Street over Hoosic River, estimate for a new bridge.

Agawam — At West Springfield line, over Westfield River, estimate for a new bridge.

Berlin — Bridge Road over Assabet River, estimate for a new bridge.

Boston — At Chelsea line, Chelsea North Bridge over Mystic River, examination of plans and specifications.

Charlmont — Hawley Road over Deerfield River, estimate for a new bridge.

Erving — At Montague line, Millers Falls Bridge over Millers River, estimate for a new bridge.

Fairhaven — At New Bedford line, Coggeshall Street Bridge over Acushnet River, estimates for repairs and for a new bridge.

Hadley — At Northampton line, over Connecticut River, estimate for a new bridge.

Kingston — Elm Street over Jones River, estimate for a new bridge.

Lynn — At Saugus line, Fox Hill Bridge over Saugus River, investigation for alteration to relieve traffic.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1935, was 178. In 1934 the number of such openings was 110; in 1933 the number was 153; and in 1932 the number was 220.

The total expenditure during the year was \$4,691.92.

The total expenditure from 1912 to Nov. 30, 1935, inclusive, was \$199,724.15.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure, shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1935, was 1,492. In 1934 the number of such openings was 2,118; in 1933 the number was 1,602; and in 1932 the number was 1,662.

The total expenditure during the year was \$9,988.38.

The total expenditure from 1912 to Nov. 30, 1933, inclusive, was \$411,645.10.



BRIDGE OVER ACUSHNET RIVER BETWEEN CITY OF NEW BEDFORD AND THE  
TOWN OF FAIRHAVEN

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure, shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1932, was 1,069. In 1933 the number of such openings was 1,867; in 1934 the number was 1,434; and in 1935 the number was 1,318.

The total expenditure during the year was \$11,743.88.

The total expenditure while in charge of the Department has been \$96,860.63.

BRIDGE OVER WEYMOUTH FORE RIVER BETWEEN THE CITY OF QUINCY AND THE  
TOWN OF WEYMOUTH

The jurisdiction of the Department of Public Works over this bridge is provided for by Chapter 348, Acts of 1933. The construction of the new bridge at this location required the construction of a temporary bridge to accommodate the vehicular traffic which normally passed over the old bridge.

The number of draw openings at this temporary bridge during the fiscal year ending Nov. 30, 1935, was 2,812.

The expenditure during the year for the maintenance and operation of this temporary bridge was \$19,834.72.

CONSTRUCTION OF TOWN AND COUNTY WAYS  
(Section 34, Chapter 90, General Laws, Ter. Ed.)

During the year the Department has contracted for work to be done in the towns/cities named in the following table, which also shows the type of road, the length contracted for, and the allotments of contributions by the State, towns/cities and counties:

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
<i>Barnstable County</i>					
Barnstable . . . . .	\$5,400 00	\$2,700 00	\$2,700 00	Gravel and tar mixed in place . . . . .	6,400
Barnstable . . . . .	3,825 00	1,912 50	1,912 50	Gravel and tar mixed in place . . . . .	4,115
Barnstable . . . . .	1,600 00	800 00	800 00	Gravel and tar mixed in place . . . . .	1,870
Barnstable . . . . .	2,975 00	1,487 50	1,487 50	Repairs and oiling . . . . .	17,750
Barnstable . . . . .	1,500 00	750 00	750 00	Repairs and oiling . . . . .	11,250
Brewster . . . . .	5,100 00	2,550 00	2,550 00	Gravel and oiling . . . . .	8,850
Chatham . . . . .	11,050 00	5,525 00	5,525 00	Bituminous concrete . . . . .	6,633
Falmouth . . . . .	3,400 00	1,700 00	1,700 00	Gravel and tar mixed in place . . . . .	3,750
Falmouth . . . . .	1,250 00	625 00	625 00	Gravel and tar mixed in place . . . . .	1,050
Harwich . . . . .	850 00	425 00	425 00	Bituminous concrete . . . . .	462
Harwich . . . . .	2,040 00	1,020 00	1,020 00	Repairs and oiling . . . . .	15,660
Harwich . . . . .	6,800 00	3,400 00	3,400 00	Bituminous concrete . . . . .	3,150
Orleans . . . . .	5,100 00	2,550 00	2,550 00	Bituminous concrete . . . . .	2,853
Orleans . . . . .	3,400 00	1,700 00	1,700 00	Bituminous concrete . . . . .	1,254
Wellfleet . . . . .	5,100 00	2,550 00	2,550 00	Gravel . . . . .	3,387
<i>Berkshire County</i>					
Adams . . . . .	\$2,550 00	\$1,275 00	\$1,275 00	Stone retread . . . . .	1,550
Adams . . . . .	10,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	3,400
Alford . . . . .	1,275 00	637 50	637 50	Gravel . . . . .	900
Alford . . . . .	500 00	250 00	250 00	Repairs . . . . .	7,713
Becket . . . . .	850 00	425 00	425 00	Gravel . . . . .	600
Becket . . . . .	3,300 00	1,650 00	1,650 00	Gravel and tar . . . . .	1,200
Becket . . . . .	850 00	425 00	425 00	Gravel . . . . .	500
Becket . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	700
Cheshire . . . . .	2,720 00	1,360 00	1,360 00	Stone retread and gravel . . . . .	3,900
Clarksburg . . . . .	850 00	425 00	425 00	Oiling . . . . .	13,025
Clarksburg . . . . .	2,000 00	1,000 00	1,000 00	Gravel and tar . . . . .	1,200
Dalton . . . . .	9,500 00	4,750 00	4,750 00	Stone retread . . . . .	3,200
Egremont . . . . .	3,200 00	1,600 00	1,600 00	Stone retread . . . . .	3,950
Florida . . . . .	1,700 00	850 00	850 00	Gravel . . . . .	400
Florida . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,000
Great Barrington . . . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	3,379
Hancock . . . . .	9,350 00	340 00	1,360 00	Penolithic pavement . . . . .	2,098
Hancock . . . . .	900 00	120 00	450 00	Grading and drainage . . . . .	450
Hinsdale . . . . .	1,000 00	500 00	500 00	Gravel and tar . . . . .	1,800
Lanesborough . . . . .	3,850 00	1,925 00	1,925 00	Gravel and tar . . . . .	3,200
Lanesborough . . . . .	2,150 00	1,075 00	1,075 00	Bridge and approaches . . . . .	—
Lee . . . . .	3,400 00	1,700 00	1,700 00	Gravel and tar and stone re-tread . . . . .	2,650

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
Lee . . . . .	\$3,400 00	\$1,700 00	\$1,700 00	Bituminous macadam . . .	1,300
Lee . . . . .	6,000 00	3,000 00	3,000 00	Grading and drainage . . .	4,850
Lee . . . . .	2,200 00	1,100 00	1,100 00	Bridge and approaches . . .	—
Lenox . . . . .	4,250 00	2,125 00	2,125 00	Bituminous macadam . . .	1,750
Lenox . . . . .	750 00	375 00	375 00	Gravel . . . . .	1,000
Monterey . . . . .	2,000 00	1,000 00	1,000 00	Gravel and tar . . . . .	1,150
Mount Washington . . . . .	1,500 00	500 00	1,000 00	Gravel . . . . .	950
New Ashford . . . . .	425 00	212 50	212 50	Gravel . . . . .	2,200
New Ashford . . . . .	1,080 00	540 00	540 00	Gravel . . . . .	750
New Marlborough . . . . .	2,550 00	1,275 00	1,275 00	Stone retread and gravel . . .	4,000
New Marlborough . . . . .	2,550 00	1,275 00	1,275 00	Gravel, gravel and tar and stone retread . . . . .	8,900
New Marlborough . . . . .	1,218 00	1,218 00	564 00	Gravel . . . . .	1,750
New Marlborough . . . . .	1,482 00	1,482 00	686 00	Gravel . . . . .	9,000
North Adams . . . . .	8,500 00	6,000 00	6,000 00	Penolithic pavement . . . .	4,438
Otis . . . . .	2,375 00	1,187 50	1,187 50	Gravel . . . . .	1,450
Pittsfield . . . . .	10,625 00	5,312 50	5,312 50	Reinforced cement concrete and bituminous macadam (widening) . . . . .	2,950
Pittsfield . . . . .	10,625 00	5,312 50	5,312 50	Penolithic pavement . . . .	5,135
Richmond . . . . .	2,725 00	1,362 50	1,362 50	Gravel . . . . .	1,400
Richmond . . . . .	1,062 50	531 25	531 25	Repairs and oiling . . . . .	13,200
Sandisfield . . . . .	5,000 00	2,500 00	2,500 00	Gravel . . . . .	2,300
Savoy . . . . .	2,000 00	500 00	1,500 00	Gravel . . . . .	1,180
Sheffield . . . . .	3,150 00	1,575 00	1,575 00	Stone retread and gravel and tar . . . . .	3,200
Sheffield . . . . .	850 00	425 00	425 00	Grading and drainage . . .	850
Stockbridge . . . . .	7,650 00	3,825 00	3,825 00	Bituminous macadam . . .	2,225
Tyringham . . . . .	4,000 00	2,000 00	2,000 00	Bridge repairs-gravel and tar .	2,550
Washington . . . . .	6,450 00	1,500 00	2,000 00	Gravel and oiling . . . . .	14,350
West Stockbridge . . . . .	2,500 00	1,250 00	1,250 00	Stone retread . . . . .	5,100
West Stockbridge . . . . .	3,500 00	1,750 00	1,750 00	Gravel and asphalt emulsion .	2,900
Williamstown . . . . .	6,400 00	4,950 00	1,450 00	Gravel and stone retread . . .	10,964
Williamstown . . . . .	7,550 00	4,150 00	3,400 00	Bituminous macadam . . . .	1,706
Windsor . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	700
Windsor . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	600
<i>Bristol County</i>					
Acushnet . . . . .	\$255 00	\$255 00	\$255 00	Repairs and oiling . . . . .	20,819
Berkley-Dighton . . . . .	10,500 00	5,000 00	5,000 00	Bridge . . . . .	—
Berkley . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	46,936
Dartmouth . . . . .	36,125 00	21,225 00	21,225 00	Bridge and approaches . . .	—
Easton . . . . .	5,100 00	5,100 00	—	Gravel and tar . . . . .	4,965
Fairhaven . . . . .	850 00	850 00	850 00	Repairs and oiling . . . . .	28,195
Freetown . . . . .	850 00	850 00	850 00	Repairs and oiling . . . . .	62,527
Mansfield . . . . .	2,210 00	2,210 00	—	Gravel and tar . . . . .	1,100
Norton . . . . .	425 00	425 00	425 00	Repairs and oiling . . . . .	23,194
Raynham . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	16,080
Rehoboth . . . . .	680 00	680 00	680 00	Repairs and oiling . . . . .	49,437
Rehoboth . . . . .	2,550 00	2,550 00	—	Gravel . . . . .	1,400
<i>Dukes County</i>					
Tisbury . . . . .	\$1,000 00	\$1,000 00	—	Repairs and oiling . . . . .	13,500
<i>Essex County</i>					
Amesbury . . . . .	\$12,750 00	\$6,375 00	\$6,375 00	Gravel and tar and bituminous macadam-reinforced cement concrete widening . . . . .	8,963
Amesbury . . . . .	850 00	850 00	—	Repairs and oiling . . . . .	17,350
Andover . . . . .	7,450 00	3,725 00	3,725 00	Grading and drainage . . .	4,250
Andover . . . . .	1,200 00	1,200 00	—	Repairs and oiling . . . . .	9,880
Beverly . . . . .	3,500 00	1,750 00	1,750 00	Bituminous macadam . . . .	1,100
Boxford . . . . .	1,700 00	850 00	850 00	Stone retread . . . . .	1,100
Boxford . . . . .	1,700 00	850 00	850 00	Stone retread . . . . .	900
Boxford . . . . .	2,000 00	2,000 00	—	Repairs and oiling . . . . .	25,250
Danvers . . . . .	1,650 00	1,650 00	—	Repairs and oiling . . . . .	8,300
Essex . . . . .	2,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	14,244
Georgetown . . . . .	4,250 00	2,125 00	2,125 00	Gravel and tar . . . . .	3,800
Georgetown . . . . .	3,000 00	375 00	1,500 00	Gravel and tar, repairs and oiling . . . . .	5,000
Gloucester . . . . .	5,000 00	5,000 00	—	Bituminous macadam . . . .	1,800
Groveland . . . . .	1,500 00	200 00	750 00	Gravel and tar . . . . .	700
Hamilton . . . . .	8,500 00	4,250 00	4,250 00	Bituminous macadam . . . .	2,450
Haverhill . . . . .	6,375 00	3,187 50	3,187 50	Bituminous macadam . . . .	1,664
Ipswich . . . . .	5,100 00	2,550 00	2,550 00	Stone retread, repairs and oiling	40,750
Lynn . . . . .	19,125 00	9,562 50	9,562 50	Bituminous macadam . . . .	4,150
Lynnfield . . . . .	5,100 00	2,550 00	2,550 00	Bituminous macadam . . . .	2,400
Lynnfield . . . . .	1,000 00	500 00	500 00	Bituminous macadam . . . .	150
Manchester . . . . .	24,437 50	4,250 00	13,812 50	Grading and drainage . . .	1,650
Marblehead . . . . .	11,900 00	5,950 00	5,950 00	Bituminous macadam . . . .	5,281
Merrimac . . . . .	14,025 00	2,125 00	5,100 00	Bituminous macadam . . . .	2,292
Methuen . . . . .	1,000 00	1,000 00	—	Repairs and oiling . . . . .	6,306
Middleton . . . . .	1,500 00	1,500 00	—	Repairs and oiling . . . . .	18,532
Newbury . . . . .	4,675 00	2,000 00	2,000 00	Penolithic pavement . . . .	1,810
Newbury . . . . .	4,675 00	2,000 00	2,000 00	Gravel and tar . . . . .	3,285
Newbury . . . . .	1,500 00	1,500 00	—	Repairs and oiling . . . . .	24,900



COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
North Andover . . .	\$5,950 00	\$2,975 00	\$2,975 00	Bridge-stone and cut-back as- phalt mixed in place . . .	2,550
Peabody . . . . .	17,000 00	8,500 00	8,500 00	Bituminous macadam . . .	5,650
Peabody . . . . .	1,870 00	935 00	935 00	Grading and drainage . . .	402
				Bituminous macadam . . .	115
Rockport . . . . .	2,500 00	1,250 00	1,250 00	Repairs and oiling . . .	15,800
Swampscott . . . . .	10,200 00	5,100 00	5,100 00	Bituminous concrete . . .	2,554
Topsfield . . . . .	4,420 00	680 00	1,700 00	Grading and oiling . . .	1,650
Topsfield . . . . .	1,062 50	765 00	531 25	Grading and drainage . . .	1,600
West Newbury . . . . .	850 00	850 00	—	Repairs and oiling . . .	6,500
West Newbury . . . . .	5,950 00	2,975 00	2,975 00	Stone and cut-back asphalt mixed in place . . .	2,800
West Newbury . . . . .	1,500 00	200 00	750 00	Repairs and oiling . . .	8,020
<i>Franklin County</i>					
Ashfield . . . . .	850 00	425 00	425 00	Gravel . . . . .	1,585
Ashfield . . . . .	1,275 00	850 00	425 00	Gravel and tar (widening) . .	400
				Gravel and tar mixed in place . .	1,200
Bernardston . . . . .	1,700 00	850 00	850 00	Bridge repairs—gravel and tar mixed in place . . .	2,300
Buckland . . . . .	3,400 00	2,550 00	850 00	Stone and cut-back asphalt mixed in place . . .	6,000
Charlemont . . . . .	1,700 00	850 00	850 00	Stone and tar mixed in place . .	2,900
Colrain . . . . .	2,550 00	1,700 00	850 00	Bituminous macadam . . .	1,100
Conway . . . . .	2,550 00	1,700 00	850 00	Gravel . . . . .	2,100
Deerfield . . . . .	1,700 00	850 00	850 00	Bituminous macadam . . .	1,000
Erving . . . . .	722 50	361 25	361 25	Bituminous macadam . . .	700
Erving . . . . .	977 50	488 75	488 75	Gravel . . . . .	1,000
Gill . . . . .	1,700 00	850 00	850 00	Gravel and tar mixed in place . .	1,800
Greenfield . . . . .	9,350 00	8,500 00	850 00	Bituminous macadam . . .	2,650
Hawley . . . . .	850 00	425 00	425 00	Gravel . . . . .	800
Hawley . . . . .	850 00	425 00	425 00	Gravel . . . . .	300
Heath . . . . .	1,700 00	850 00	859 00	Gravel . . . . .	1,500
Leverett . . . . .	1,700 00	850 00	850 00	Gravel and tar . . . . .	6,000
Leyden . . . . .	1,700 00	850 00	850 00	Bituminous macadam . . .	1,600
Monroe . . . . .	3,400 00	2,550 00	850 00	Bridge—gravel . . . . .	850
Montague . . . . .	6,800 00	5,950 00	850 00	Bituminous macadam . . .	2,807
Montague-Greenfield . . . . .	5,000 00	—	5,000 00	Bridge repairs . . . . .	—
New Salem . . . . .	1,700 00	850 00	850 00	Gravel . . . . .	1,350
New Salem . . . . .	1,000 00	1,000 00	—	Repairs and oiling . . . . .	17,600
Northfield . . . . .	1,700 00	850 00	850 00	Bridge and approaches . . .	—
Orange . . . . .	2,550 00	1,700 00	850 00	Gravel and tar . . . . .	1,200
Rowe . . . . .	2,550 00	1,275 00	850 00	Gravel . . . . .	1,350
Shelburne . . . . .	1,275 00	850 00	425 00	Bituminous macadam . . .	675
Shelburne . . . . .	1,275 00	850 00	425 00	Bituminous macadam . . .	1,500
Shutesbury . . . . .	1,700 00	850 00	850 00	Gravel and gravel and tar mixed in place . . .	5,532
Sunderland . . . . .	4,000 00	1,000 00	1,000 00	Grading and drainage . . .	2,250
Warwick . . . . .	1,700 00	850 00	850 00	Gravel . . . . .	1,050
Wendell . . . . .	3,400 00	2,550 00	850 00	Gravel and gravel and tar mixed in place . . .	3,331
Wendell . . . . .	1,275 00	1,275 00	—	Repairs and oiling . . . . .	18,480
Whately . . . . .	1,700 00	850 00	850 00	Bituminous macadam . . .	1,100
<i>Hampden County</i>					
Agawam . . . . .	\$12,375 00	\$7,250 00	\$5,125 00	Bituminous macadam . . .	5,256
Agawam . . . . .	5,000 00	2,500 00	2,500 00	Bituminous concrete . . .	2,900
Agawam . . . . .	9,000 00	4,500 00	4,500 00	Gravel and tar . . . . .	12,566
Agawam . . . . .	637 50	637 50	637 50	Grading and oiling . . .	6,000
Blandford . . . . .	3,825 00	1,700 00	2,125 00	Gravel and stone retread . .	4,390
Brimfield . . . . .	425 00	425 00	425 00	Repairs and oiling . . . . .	27,082
Brimfield . . . . .	3,400 00	1,700 00	1,700 00	Grading and drainage . . .	2,550
				Gravel and tar mixed in place . .	1,700
Brimfield . . . . .	340 00	340 00	340 00	Bridge abolition . . . . .	—
Chester . . . . .	5,950 00	850 00	5,100 00	Stone retread and gravel . .	4,350
Chester . . . . .	2,550 00	425 00	1,912 50	Stone retread . . . . .	5,350
East Longmeadow . . . . .	8,500 00	4,250 00	4,250 00	Bituminous macadam . . .	4,050
East Longmeadow . . . . .	425 00	425 00	425 00	Gravel and tar mixed in place . .	3,200
Granville . . . . .	5,100 00	2,550 00	2,550 00	Bituminous macadam . . .	1,400
Hampden . . . . .	2,550 00	1,020 00	1,530 00	Bituminous macadam (widening) and oiling . . . . .	5,000
Hampden . . . . .	1,700 00	680 00	1,020 00	Bituminous macadam . . .	1,000
Hampden . . . . .	425 00	425 00	425 00	Repairs and oiling . . . . .	10,000
Holland . . . . .	3,400 00	850 00	2,720 00	Grading and drainage . . .	1,850
				Gravel and tar mixed in place . .	2,600
Holland . . . . .	425 00	425 00	425 00	Repairs and oiling . . . . .	18,600
Holyoke . . . . .	2,975 00	1,487 50	1,487 50	Bituminous macadam . . .	1,900
Longmeadow . . . . .	6,375 00	4,250 00	2,125 00	Gravel and cut-back asphalt mixed in place . . .	3,800
Ludlow . . . . .	3,400 00	1,700 00	1,700 00	Bituminous macadam . . .	1,750
Ludlow . . . . .	4,000 00	2,000 00	2,000 00	Bituminous macadam . . .	2,000
Monson . . . . .	3,400 00	1,700 00	1,700 00	Gravel and tar mixed in place . .	2,300
Monson . . . . .	425 00	425 00	425 00	Repairs and oiling . . . . .	3,693
Montgomery . . . . .	2,550 00	850 00	2,550 00	Gravel . . . . .	1,575
Palmer . . . . .	17,800 00	15,038 10	15,000 00	Bituminous macadam . . .	9,825
Palmer . . . . .	4,000 00	3,000 00	3,000 00	Bridge and approaches . . .	—

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
Palmer . . . . .	\$850 00	\$425 00	\$425 00	Granite curbing . . . . .	937
Russell . . . . .	425 00	425 00	425 00	Gravel . . . . .	550
Southwick . . . . .	4,250 00	1,700 00	2,550 00	Bituminous macadam . . . . .	2,250
Springfield . . . . .	21,250 00	10,625 00	10,625 00	Bituminous macadam and bi- tuminous concrete . . . . .	6,587
Tolland . . . . .	4,250 00	1,700 00	2,550 00	Gravel and stone retread . . . . .	6,300
Wales . . . . .	2,550 00	850 00	1,700 00	Grading and drainage . . . . .	1,950
Wales . . . . .	255 00	255 00	255 00	Gravel and tar mixed in place . . . . .	1,300
Westfield . . . . .	4,250 00	2,125 00	2,125 00	Repairs and oiling . . . . .	10,550
Westfield . . . . .	850 00	850 00	850 00	Bituminous macadam . . . . .	5,000
Westfield . . . . .	1,500 00	750 00	750 00	Repairs and oiling . . . . .	18,555
West Springfield . . . . .	3,400 00	1,700 00	1,700 00	Concrete curbing . . . . .	3,350
West Springfield . . . . .	7,650 00	3,825 00	3,825 00	Reinforced cement concrete . . . . .	1,851
Wilbraham . . . . .	510 00	510 00	510 00	Bituminous macadam . . . . .	2,749
Wilbraham . . . . .	3,400 00	1,700 00	1,700 00	Bituminous macadam . . . . .	403
Wilbraham . . . . .	3,400 00	1,700 00	1,700 00	Bituminous macadam . . . . .	4,100
Wilbraham . . . . .	3,400 00	1,700 00	1,700 00	Bituminous macadam . . . . .	1,450
<i>Hampshire County</i>					
Amherst . . . . .	15,200 00	10,800 00	4,400 00	Bituminous macadam . . . . .	2,890
Belchertown . . . . .	13,812 50	3,187 50	4,250 00	Grading and drainage . . . . .	310
Belchertown . . . . .	2,000 00	5,450 00	600 00	Bituminous macadam . . . . .	3,659
Chesterfield . . . . .	850 00	425 00	425 00	Drainage . . . . .	1,200
Chesterfield . . . . .	850 00	425 00	425 00	Bituminous macadam . . . . .	1,312
Chesterfield . . . . .	850 00	425 00	425 00	Gravel . . . . .	600
Cummington . . . . .	2,125 00	1,275 00	850 00	Gravel . . . . .	650
Cummington . . . . .	850 00	425 00	425 00	Gravel and tar . . . . .	500
Enfield . . . . .	850 00	425 00	425 00	Gravel . . . . .	1,300
Goshen . . . . .	850 00	425 00	425 00	Gravel and gravel and tar mixed in place . . . . .	800
Goshen . . . . .	850 00	425 00	425 00	Repairs and oiling . . . . .	17,424
Goshen . . . . .	850 00	425 00	425 00	Gravel . . . . .	650
Greenwich . . . . .	425 00	212 50	212 50	Gravel . . . . .	600
Hadley . . . . .	15,300 00	7,650 00	7,650 00	Repairs and oiling . . . . .	8,448
Huntington . . . . .	4,000 00	2,000 00	2,000 00	Bridge and approaches . . . . .	—
Middlefield . . . . .	1,700 00	850 00	850 00	Gravel . . . . .	2,700
Middlefield . . . . .	850 00	425 00	425 00	Gravel . . . . .	1,000
Northampton . . . . .	4,250 00	4,250 00	1,700 00	Gravel . . . . .	450
Northampton . . . . .	3,825 00	2,550 00	1,275 00	Bituminous macadam . . . . .	3,183
Pelham . . . . .	7,980 00	2,020 00	1,700 00	Bituminous macadam . . . . .	2,600
Plainfield . . . . .	1,700 00	850 00	850 00	Bituminous macadam . . . . .	2,600
Southampton . . . . .	850 00	425 00	425 00	Gravel and tar . . . . .	1,200
Ware . . . . .	3,400 00	1,700 00	1,700 00	Gravel and tar . . . . .	1,120
Westhampton . . . . .	1,275 00	637 50	637 50	Stone retread . . . . .	1,355
Williamsburg . . . . .	1,700 00	850 00	850 00	Bituminous macadam . . . . .	800
Worthington . . . . .	1,700 00	850 00	850 00	Gravel . . . . .	2,210
Worthington . . . . .	1,700 00	850 00	850 00	Gravel . . . . .	650
Worthington . . . . .	1,700 00	850 00	850 00	Gravel . . . . .	1,000
<i>Middlesex County</i>					
Acton . . . . .	3,187 50	2,125 00	1,062 50	Gravel and asphaltic oil . . . . .	3,300
Acton . . . . .	1,700 00	1,700 00	1,700 00	Repairs and oiling . . . . .	97,416
Arlington . . . . .	10,000 00	5,450 00	5,450 00	Bituminous concrete . . . . .	3,961
Ashby . . . . .	1,275 00	425 00	850 00	Gravel and tar . . . . .	1,500
Ashby . . . . .	510 00	255 00	510 00	Repairs and oiling . . . . .	17,952
Ashland . . . . .	850 00	850 00	850 00	Repairs and oiling . . . . .	30,096
Ashland . . . . .	2,000 00	1,000 00	1,000 00	Grading and drainage . . . . .	1,300
Ayer . . . . .	1,275 00	1,275 00	1,275 00	Repairs and oiling . . . . .	50,054
Ayer . . . . .	7,000 00	3,500 00	3,500 00	Bituminous macadam . . . . .	1,025
Bedford . . . . .	2,300 00	2,300 00	2,300 00	Bituminous macadam (widening) . . . . .	1,975
Bedford . . . . .	2,000 00	300 00	1,700 00	Repairs and oiling . . . . .	46,464
Bedford . . . . .	2,720 00	1,700 00	1,020 00	Bituminous macadam . . . . .	1,000
Bedford . . . . .	2,550 00	1,020 00	1,530 00	Bituminous macadam . . . . .	1,700
Bedford . . . . .	200 00	200 00	200 00	Bituminous macadam . . . . .	605
Billerica . . . . .	2,550 00	2,550 00	2,550 00	Bridge painting . . . . .	—
Billerica . . . . .	3,400 00	2,125 00	1,275 00	Repairs and oiling . . . . .	95,251
Billerica . . . . .	3,825 00	2,550 00	1,275 00	Gravel and tar . . . . .	2,575
Boxborough . . . . .	850 00	850 00	850 00	Bituminous macadam . . . . .	1,200
Boxborough . . . . .	850 00	425 00	425 00	Repairs and oiling . . . . .	40,656
Boxborough . . . . .	600 00	200 00	400 00	Gravel and asphaltic oil . . . . .	1,000
Burlington . . . . .	2,125 00	2,125 00	2,125 00	Gravel and tar . . . . .	1,256
Burlington . . . . .	3,400 00	1,700 00	1,700 00	Repairs and oiling . . . . .	73,920
Burlington . . . . .	2,000 00	1,000 00	1,000 00	Gravel and tar . . . . .	4,000
Carlisle . . . . .	2,000 00	2,000 00	2,000 00	Gravel and asphaltic oil . . . . .	1,700
Carlisle . . . . .	3,700 00	2,000 00	1,700 00	Repairs and oiling . . . . .	64,944
Carlisle . . . . .	200 00	200 00	200 00	Grading and drainage . . . . .	12,277
Chelmsford . . . . .	1,700 00	1,700 00	1,700 00	Bridge painting . . . . .	—
Chelmsford . . . . .	5,000 00	2,500 00	2,500 00	Repairs and oiling . . . . .	82,156
Concord . . . . .	12,750 00	8,500 00	4,250 00	Bituminous concrete . . . . .	6,200
Concord . . . . .	600 00	600 00	600 00	Bituminous concrete and bi- tuminous macadam . . . . .	3,605
Dracut . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam (widening) . . . . .	1,112
Dunstable . . . . .	1,487 50	1,487 50	1,487 50	Repairs and oiling . . . . .	56,232
Dunstable . . . . .	2,125 00	850 00	1,275 00	Repairs and oiling . . . . .	50,160
Framingham . . . . .	13,500 00	9,283 34	4,216 66	Repairs and oiling . . . . .	15,840
Framingham . . . . .	17,950 00	11,966 66	5,983 34	Penolithic pavement . . . . .	2,452
Framingham . . . . .				Bituminous macadam . . . . .	6,823



COUNTIES AND TOWNS	CONTRIBUTION		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
Groton . . . . .	\$2,975 00	\$2,975 00	\$2,975 00	Repairs and oiling	52,377
Groton . . . . .	5,100 00	2,550 00	2,550 00	Gravel and tar	3,100
Holliston . . . . .	1,275 00	1,275 00	1,275 00	Repairs and oiling	36,432
Holliston . . . . .	2,550 00	850 00	1,700 00	Gravel and tar	2,500
Hopkinton . . . . .	1,775 00	1,775 00	1,775 00	Repairs and oiling	70,224
Hudson . . . . .	850 00	850 00	850 00	Repairs and oiling	52,113
Hudson . . . . .	11,745 00	7,830 00	3,915 00	Bituminous macadam	2,308
Hudson . . . . .	2,550 00	1,700 00	850 00	Bituminous macadam	800
Lexington . . . . .	15,000 00	10,000 00	5,000 00	Bituminous macadam	3,045
Lexington . . . . .	10,712 50	9,200 00	4,137 50	Bituminous macadam	4,080
Lincoln . . . . .	850 00	850 00	850 00	Repairs and oiling	36,960
Lincoln . . . . .	2,550 00	1,275 00	1,275 00	Bituminous macadam and gravel (widening)	17,424
Littleton . . . . .	1,785 00	1,785 00	1,785 00	Repairs and oiling	57,024
Littleton . . . . .	2,550 00	1,275 00	1,275 00	Gravel and tar	3,000
Littleton . . . . .	500 00	500 00	500 00	Drainage	1,660
Lowell . . . . .	12,750 00	8,500 00	4,250 00	Bituminous concrete	3,706
Lowell . . . . .	10,200 00	6,800 00	3,400 00	Bituminous concrete	1,544
Lowell . . . . .	6,375 00	4,250 00	2,125 00	Bituminous concrete	1,400
Malden . . . . .	52,500 00	30,000 00	25,000 00	Bridge and approaches	—
Maynard . . . . .	17,000 00	11,050 00	5,950 00	Bituminous macadam	4,990
Medford . . . . .	46,750 00	30,000 00	25,000 00	Bituminous concrete	7,475
Melrose . . . . .	13,335 36	15,300 00	8,500 00	Sheet asphalt	3,727
Melrose . . . . .	12,100 00	10,200 00	5,100 00	Bituminous macadam	4,165
Natick . . . . .	1,275 00	1,275 00	1,275 00	Repairs and oiling	53,275
Natick . . . . .	8,500 00	4,250 00	4,250 00	Bituminous concrete	1,720
Natick . . . . .	9,250 00	4,625 00	4,625 00	Bituminous concrete	1,892
Natick . . . . .	1,700 00	850 00	850 00	Gravel and tar	735
Newton . . . . .	51,000 00	38,250 00	21,250 00	Bituminous concrete	8,415
North Reading . . . . .	1,700 00	1,700 00	1,700 00	Repairs and oiling	52,272
North Reading . . . . .	3,400 00	2,550 00	1,275 00	Bituminous macadam	2,400
Pepperell . . . . .	2,550 00	1,700 00	850 00	Gravel and tar	1,988
Pepperell . . . . .	2,550 00	2,550 00	2,550 00	Repairs and oiling	81,312
Sherborn . . . . .	2,125 00	2,125 00	2,125 00	Repairs and oiling	74,448
Sherborn . . . . .	12,750 00	4,250 00	8,500 00	Bituminous macadam	3,750
Sherborn . . . . .	3,000 00	1,500 00	1,500 00	Bituminous macadam	800
Shirley . . . . .	1,700 00	1,700 00	1,700 00	Repairs and Oiling	51,216
Shirley . . . . .	6,800 00	3,400 00	3,400 00	Gravel and tar	6,400
Stoneham . . . . .	10,200 00	6,800 00	3,400 00	Penolithic pavement	3,995
Stoneham . . . . .	2,000 00	1,000 00	1,000 00	Bituminous macadam	930
Stoneham . . . . .	500 00	500 00	500 00	Bituminous macadam	275
Stow . . . . .	1,275 00	1,275 00	1,275 00	Repairs and oiling	41,184
Sudbury . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling	81,840
Tewksbury . . . . .	1,700 00	1,700 00	1,700 00	Repairs and oiling	45,408
Tewksbury . . . . .	5,100 00	2,975 00	2,125 00	Bituminous macadam	2,100
Tewksbury . . . . .	2,500 00	1,250 00	1,250 00	Bituminous macadam	1,500
Tewksbury . . . . .	3,725 00	2,075 00	1,650 00	Gravel and tar	3,000
Townsend . . . . .	1,700 00	1,700 00	1,700 00	Repairs and oiling	36,432
Townsend . . . . .	2,550 00	850 00	1,700 00	Gravel and asphaltic oil	3,000
Tyngsborough . . . . .	2,125 00	2,125 00	2,125 00	Repairs and oiling	77,616
Tyngsborough . . . . .	1,700 00	850 00	1,700 00	Gravel and tar	2,100
Tyngsborough . . . . .	1,700 00	850 00	850 00	Gravel and tar	2,100
Tyngsborough . . . . .	400 00	200 00	400 00	Gravel and tar	600
Wakefield . . . . .	850 00	850 00	850 00	Repairs and oiling	40,392
Wakefield . . . . .	3,400 00	1,700 00	1,700 00	Bituminous macadam	400
Wakefield . . . . .	6,800 00	4,250 00	2,550 00	Bituminous macadam	2,000
Waltham . . . . .	42,500 00	21,250 00	21,250 00	Bituminous concrete	300
				Bituminous macadam	6,600
				Grading	5,928
Wayland . . . . .	2,125 00	2,125 00	2,125 00	Repairs and oiling	52,800
Wayland . . . . .	7,650 00	5,100 00	2,550 00	Bituminous macadam	3,290
Westford . . . . .	2,550 00	1,275 00	1,275 00	Gravel and tar	2,000
Westford . . . . .	450 00	225 00	225 00	Gravel and tar	739
Westford . . . . .	3,333 33	3,333 33	3,333 34	Repairs and oiling	140,448
Wilmington . . . . .	850 00	850 00	850 00	Repairs and oiling	38,016
Wilmington . . . . .	2,550 00	1,700 00	850 00	Gravel and tar	1,900
Winchester . . . . .	25,500 00	17,000 00	8,500 00	Bituminous concrete	4,975
Winchester . . . . .	12,750 00	8,500 00	4,250 00	Bridge and approaches	—
Woburn . . . . .	25,500 00	17,000 00	8,500 00	Bituminous concrete	7,462
<i>Norfolk County</i>					
Avon . . . . .	5,525 00	5,525 00	—	Penolithic pavement	2,300
Bellingham . . . . .	2,252 50	425 00	1,126 25	Repairs and oiling	21,270
Canton . . . . .	850 00	850 00	850 00	Repairs and oiling	24,816
Foxborough . . . . .	2,125 00	2,125 00	N.H.R.R.	Gravel and tar	1,500
Foxborough-Walpole . . . . .	2,350 00	850 00	1,275 00	Gravel and tar mixed in place	2,005
Franklin . . . . .	850 00	850 00	850 00	Repairs and oiling	65,049
Franklin . . . . .	5,950 00	5,950 00	—	Gravel and tar	4,150
Franklin . . . . .	4,250 00	4,250 00	—	Gravel and tar	4,250
Holbrook . . . . .	425 00	425 00	425 00	Repairs and oiling	29,462
Medfield . . . . .	850 00	850 00	850 00	Repairs and oiling	32,404
Medway . . . . .	850 00	850 00	850 00	Repairs and oiling	5,000
Millis . . . . .	850 00	850 00	850 00	Repairs and oiling	43,363
Millis . . . . .	2,125 00	2,125 00	—	Bituminous macadam	682
Norfolk . . . . .	850 00	850 00	850 00	Repairs and oiling	37,683
Norwood . . . . .	10,000 00	10,000 00	—	Bituminous concrete	3,950

LENGTH CON-  
TRACTED FOR  
(FEET)

CONTRIBUTIONS

COUNTIES AND TOWNS	State	Town	County	TYPE OF ROAD	
Randolph . . .	\$850 00	\$850 00	\$850 00	Repairs and oiling . . .	14,625
Sharon . . .	850 00	850 00	850 00	Repairs and oiling . . .	46,464
Stoughton . . .	425 00	425 00	425 00	Repairs and oiling . . .	29,145
Walpole . . .	3,025 00	3,025 00	—	Bituminous macadam . . .	1,070
Walpole . . .	6,290 00	6,290 00	—	Bituminous macadam . . .	2,150
Weymouth . . .	12,750 00	12,750 00	—	Bituminous concrete . . .	3,920
Wrentham . . .	3,400 00	3,400 00	—	Gravel and tar . . .	3,035
Wrentham . . .	3,400 00	3,400 00	—	Gravel and tar . . .	3,000
Wrentham . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	15,863
<i>Plymouth County</i>					
Abington . . .	7,225 00	3,612 50	3,612 50	Bituminous macadam . . .	2,691
Abington . . .	1,700 00	1,700 00	—	Bituminous concrete sidewalk and concrete curbing . . .	1,700
Bridgewater . . .	15,300 00	7,650 00	7,650 00	Bituminous macadam . . .	3,450
Brockton . . .	17,000 00	17,000 00	—	Bituminous macadam . . .	6,200
Carver . . .	3,400 00	1,700 00	1,700 00	Gravel and tar mixed in place . . .	2,800
East Bridgewater . . .	9,350 00	4,675 00	4,675 00	Penolithic pavement . . .	3,980
Halifax . . .	5,950 00	2,975 00	2,975 00	Gravel and tar . . .	7,282
Kingston . . .	6,375 00	3,187 50	3,187 50	Bituminous macadam and gravel and tar mixed in place . . .	3,203
Marion . . .	3,825 00	1,912 50	1,912 50	Penolithic pavement . . .	2,364
Marshfield . . .	5,100 00	2,550 00	2,550 00	Penolithic pavement . . .	2,510
Pembroke . . .	3,400 00	1,700 00	1,700 00	Gravel and tar mixed in place . . .	4,000
Plymouth . . .	5,950 00	2,975 00	2,975 00	Gravel and tar mixed in place . . .	8,000
Plymouth . . .	1,275 00	637 50	637 50	Bridge . . .	—
Plympton . . .	800 00	300 00	500 00	Gravel and tar . . .	2,800
Rochester . . .	5,100 00	2,550 00	2,550 00	Gravel and tar . . .	9,510
Rockland . . .	3,400 00	1,700 00	1,700 00	Bituminous macadam . . .	850
Rockland . . .	4,250 00	2,125 00	2,125 00	Penolithic pavement . . .	1,800
West Bridgewater . . .	5,100 00	2,550 00	2,550 00	Gravel and tar . . .	3,800
Whitman . . .	10,200 00	6,000 00	5,550 00	Bituminous macadam . . .	3,800
<i>Worcester County</i>					
Ashburnham . . .	1,487 50	850 00	1,487 50	Repairs and oiling . . .	39,340
Athol . . .	425 00	425 00	425 00	Repairs and oiling . . .	16,000
Barre . . .	7,650 00	4,250 00	3,400 00	Gravel and tar mixed in place . . .	6,200
Barre . . .	500 00	500 00	500 00	Repairs and oiling . . .	39,900
Berlin . . .	6,375 00	2,975 00	3,400 00	Gravel and tar mixed in place . . .	3,000
Berlin . . .	2,125 00	850 00	2,125 00	Repairs and oiling . . .	45,815
Blackstone . . .	5,100 00	2,550 00	2,550 00	Stone and tar mixed in place . . .	3,427
Blackstone . . .	850 00	850 00	850 00	Repairs and oiling . . .	41,115
Blackstone . . .	4,000 00	2,000 00	2,000 00	Gravel and tar mixed in place . . .	3,900
Bolton . . .	5,950 00	1,700 00	4,250 00	Penolithic pavement . . .	2,800
Bolton . . .	850 00	425 00	850 00	Repairs and oiling . . .	32,544
Boylston . . .	3,400 00	1,700 00	1,700 00	Gravel and tar mixed in place . . .	2,500
Boylston . . .	680 00	425 00	680 00	Repairs and oiling . . .	50,866
Brookfield . . .	2,550 00	850 00	1,700 00	Gravel and tar mixed in place . . .	2,000
Brookfield . . .	425 00	425 00	425 00	Repairs and oiling . . .	21,775
Charlton . . .	2,805 00	1,275 00	1,530 00	Gravel and tar mixed in place . . .	2,175
Charlton . . .	1,955 00	850 00	1,105 00	Grading and drainage . . .	4,849
Clinton . . .	8,500 00	2,125 00	—	Stone and tar mixed in place . . .	2,900
Clinton . . .	2,375 00	3,137 00	2,650 00	Trap rock and tar mixed in place . . .	2,000
Dana . . .	1,700 00	425 00	850 00	Gravel and tar mixed in place . . .	1,500
Dana . . .	1,275 00	425 00	850 00	Gravel and tar (widening) . . .	6,300
Dana . . .	850 00	850 00	850 00	Repairs and oiling . . .	76,950
Douglas . . .	4,250 00	2,125 00	2,125 00	Gravel and tar mixed in place . . .	3,900
Dudley . . .	2,700 00	1,350 00	1,350 00	Gravel and tar mixed in place . . .	3,321
Dudley . . .	4,100 00	2,050 00	2,050 00	Gravel and tar mixed in place . . .	2,000
Dudley . . .	340 00	340 00	340 00	Repairs and oiling . . .	9,250
East Brookfield . . .	1,870 00	935 00	935 00	Bridge and approaches . . .	—
Fitchburg . . .	12,750 00	6,375 00	6,375 00	Bituminous macadam . . .	4,267
Fitchburg . . .	11,050 00	5,525 00	5,525 00	Stone and tar mixed in place . . .	4,450
Grafton . . .	6,375 00	3,187 50	3,187 50	Bituminous macadam . . .	2,000
Grafton . . .	3,000 00	3,000 00	3,000 00	Repairs and oiling . . .	31,608
Hardwick . . .	3,400 00	1,190 00	2,210 00	Gravel and tar mixed in place . . .	2,900
Hardwick . . .	1,105 00	1,105 00	1,105 00	Repairs and oiling . . .	42,550
Harvard . . .	1,275 00	1,275 00	1,275 00	Repairs and oiling . . .	36,457
Holden . . .	8,500 00	4,250 00	4,250 00	Grading and drainage . . .	6,187
Holden . . .	850 00	850 00	850 00	Repairs and oil . . .	35,388
Hubbardston . . .	2,550 00	850 00	1,700 00	Gravel and tar mixed in place . . .	2,200
Hubbardston . . .	1,700 00	425 00	1,275 00	Gravel and tar mixed in place . . .	2,600
Hubbardston . . .	1,190 00	595 00	1,190 00	Repairs and oiling . . .	41,700
Leicester . . .	5,950 00	2,150 00	2,975 00	Gravel and tar mixed in place . . .	4,200
Leicester . . .	850 00	850 00	850 00	Repairs and oiling . . .	35,800
Lunenburg . . .	5,950 00	2,295 00	3,655 00	Gravel and tar mixed in place . . .	5,100
Lunenburg . . .	1,487 50	1,062 50	1,487 50	Repairs and oiling . . .	38,419
Mendon . . .	3,300 00	1,100 00	2,200 00	Gravel and tar mixed in place . . .	1,700
Mendon . . .	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place . . .	1,450
Mendon . . .	850 00	850 00	850 00	Repairs and oiling . . .	22,400
Milford . . .	9,350 00	4,675 00	4,675 00	Bituminous macadam . . .	6,450
Milford . . .	850 00	850 00	850 00	Repairs and oiling . . .	12,712
Milford . . .	8,500 00	4,250 00	4,250 00	Penolithic pavement . . .	5,200
Millbury . . .	12,750 00	6,375 00	6,375 00	Penolithic pavement . . .	3,000
Millville . . .	18,000 00	—	3,000 00	2 Bridges and approaches . . .	—
New Braintree . . .	2,550 00	1,275 00	1,275 00	Gravel and tar mixed in place . . .	2,200



COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
New Braintree . . .	\$850 00	\$425 00	\$850 00	Repairs and oiling . . .	42,939
North Brookfield . . .	3,000 00	1,500 00	1,500 00	Gravel and tar mixed in place . . .	3,600
North Brookfield . . .	2,950 00	1,475 00	1,475 00	Trap rock and tar mixed in place . . .	713
North Brookfield . . .	400 00	200 00	200 00	Gravel and tar mixed in place . . .	225
Northbridge . . .	7,650 00	4,250 00	3,400 00	Stone and tar mixed in place . . .	6,850
Northbridge . . .	2,550 00	1,275 00	1,275 00	Grading and drainage . . .	1,750
Northbridge . . .	425 00	425 00	425 00	Repairs and oiling . . .	14,600
Oakham . . .	4,250 00	1,700 00	2,550 00	Gravel and tar mixed in place . . .	2,700
Oakham . . .	1,105 00	850 00	1,105 00	Repairs and oiling . . .	37,700
Paxton . . .	3,825 00	1,275 00	2,550 00	Gravel and tar mixed in place . . .	2,550
Paxton . . .	1,360 00	680 00	1,360 00	Repairs and oiling . . .	33,700
Petersham . . .	1,275 00	1,275 00	1,275 00	Repairs and oiling . . .	36,780
Princeton . . .	1,700 00	850 00	850 00	Gravel and tar mixed in place . . .	1,050
Princeton . . .	3,400 00	1,700 00	1,700 00	Bridge—gravel and tar mixed in place . . .	2,150
Princeton . . .	1,105 00	765 00	1,105 00	Repairs and oiling . . .	77,196
Royalston . . .	1,062 50	425 00	637 50	Repairs . . .	19,050
Royalston . . .	1,700 00	1,105 00	1,700 00	Repairs and oiling . . .	51,360
Rutland . . .	3,400 00	2,000 00	2,000 00	Gravel and tar mixed in place . . .	2,150
Rutland . . .	3,400 00	1,700 00	1,700 00	Gravel and tar . . .	1,720
Rutland . . .	1,912 50	1,275 00	1,912 50	Repairs and oiling . . .	45,042
Shrewsbury . . .	850 00	850 00	850 00	Repairs and oiling . . .	23,750
Southborough . . .	510 00	510 00	510 00	Repairs and oiling . . .	22,000
Southbridge . . .	12,750 00	8,500 00	4,250 00	Penolithic pavement . . .	4,650
Southbridge . . .	595 00	595 00	595 00	Repairs and oiling . . .	18,100
Spencer . . .	11,050 00	4,250 00	6,800 00	Gravel and tar mixed in place . . .	7,085
Spencer . . .	680 00	680 00	680 00	Repairs and oiling . . .	25,400
Sterling . . .	4,675 00	1,700 00	2,975 00	Bridge—gravel and tar mixed in place . . .	5,608
Sterling . . .	4,675 00	1,700 00	2,975 00	Gravel and tar mixed in place . . .	3,750
Sterling . . .	1,020 00	680 00	1,020 00	Repairs and oiling . . .	83,499
Sturbridge . . .	2,550 00	850 00	1,700 00	Gravel and tar mixed in place . . .	2,100
Sturbridge . . .	318 75	212 50	318 75	Repairs and oiling . . .	10,382
Sutton . . .	7,650 00	2,000 00	5,950 00	Gravel and tar mixed in place . . .	6,450
Sutton . . .	510 00	510 00	510 00	Repairs and oiling . . .	28,100
Sutton . . .	450 00	500 00	350 00	Gravel and tar mixed in place . . .	550
Sutton . . .	900 00	1,000 00	750 00	Gravel and tar mixed in place . . .	1,050
Templeton . . .	5,100 00	2,550 00	2,550 00	Gravel and tar mixed in place . . .	3,240
Templeton . . .	1,275 00	1,275 00	1,275 00	Repairs and oiling . . .	48,700
Upton . . .	255 00	255 00	255 00	Repairs and oiling . . .	15,650
Uxbridge . . .	6,800 00	3,825 00	2,975 00	Gravel and tar mixed in place . . .	2,300
Uxbridge . . .	4,250 00	2,550 00	1,700 00	Gravel and tar mixed in place . . .	7,635
Uxbridge . . .	6,800 00	3,825 00	2,975 00	Grading and drainage . . .	5,000
Uxbridge . . .	850 00	850 00	850 00	Repairs and oiling . . .	21,925
Warren . . .	340 00	340 00	340 00	Repairs and oiling . . .	17,100
Warren . . .	4,482 50	2,241 25	2,241 25	Repairs to 2 bridges . . .	—
Warren . . .	4,175 00	2,087 50	2,087 50	Bridge . . .	—
West Boylston . . .	1,020 00	403 75	716 25	Gravel and tar mixed in place . . .	950
West Boylston . . .	850 00	340 00	510 00	Gravel and tar mixed in place . . .	350
West Boylston . . .	3,400 00	1,360 00	2,040 00	Gravel and tar mixed in place . . .	2,750
West Boylston . . .	3,400 00	1,360 00	2,040 00	Stone and tar mixed in place . . .	3,345
West Boylston . . .	1,275 00	850 00	1,275 00	Repairs and oiling . . .	42,205
West Brookfield . . .	2,550 00	850 00	1,700 00	Bridge and approaches . . .	—
West Brookfield . . .	3,825 00	1,275 00	2,550 00	Grading and drainage . . .	2,700
West Brookfield . . .	340 00	340 00	340 00	Repairs and oiling . . .	39,350
Westborough . . .	680 00	680 00	680 00	Repairs and oiling . . .	50,269
Westminster . . .	5,100 00	1,700 00	3,400 00	Gravel and tar mixed in place . . .	3,072
Westminster . . .	1,700 00	850 00	1,700 00	Repairs and oiling . . .	67,330
Winchendon . . .	425 00	425 00	425 00	Repairs and oiling . . .	19,528
Worcester . . .	42,500 00	21,250 00	21,250 00	Bituminous macadam . . .	5,316

## EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were: —

Barnstable . . .	\$57,209.06	Hampshire . . .	\$121,263.67
Berkshire . . .	210,483.69	Middlesex . . .	598,429.18
Bristol . . .	22,620.94	Norfolk . . .	126,585.01
Dukes . . .	70,282.39	Plymouth . . .	150,481.44
Essex . . .	272,649.10	Worcester . . .	460,199.85
Franklin . . .	138,404.37		
Hampden . . .	211,977.12		
		Total	\$2,440,585.82

Details of the foregoing expenditures follow: —

*Barnstable County.*—Barnstable, \$22,661.36; Brewster, \$5,088.94; Chatham, \$5,886.03; Falmouth, \$6,241.68; Harwich, \$9,837.07; Orleans, \$7,493.98.

*Berkshire County.*—Adams, \$6,507.39; Alford, \$2,052.92; Becket, \$7,228.47; Cheshire, \$3,145.89; Clarksburg, \$3,295.80; Dalton, \$12,124.36; Egremont, \$3,-

701.06; Florida, \$6,592.14; Great Barrington, \$10,871.07; Hancock, \$15,099.16; Hinsdale, \$1,156.55; Lanesborough, \$6,935.58; Lee, \$7,864.73; Lenox, \$5,782.89; Monterey, \$2,312.73; Mt. Washington, \$1,734.87; New Ashford, \$2,318.88; New Marlborough, \$5,896.48; North Adams, \$2,018.91; Otis, \$2,746.12; Peru, \$1,660.64; Pittsfield, \$29,566.04; Richmond, \$4,374.43; Sandisfield, \$5,782.88; Savoy, \$2,312.67; Sheffield, \$5,790.66; Stockbridge, \$9,583.49; Tyringham, \$4,626.31; Washington, \$7,459.93; West Stockbridge, \$6,939.11; Williamstown, \$20,861.86; Windsor, \$2,139.67.

*Bristol County.*—Acushnet, \$294.93; Dartmouth, \$7,284.72; Easton, \$5,898.55; Fairhaven, \$983.09; Freetown, \$983.09; Mansfield, \$2,370.98; Norton, \$491.54; Raynham, \$578.29; Rehoboth, \$3,735.75.

*Dukes County.*—Edgartown, \$14,255.74; Gosnold, \$4,926.17; Oak Bluffs, \$24,835.80; Tisbury, \$26,264.68.

*Essex County.*—Amesbury, \$11,691.51; Andover, \$6,248.61; Beverly, \$3,874.54; Boxford, \$8,387.77; Danvers, \$2,196.65; Essex, \$2,313.16; Georgetown, \$8,385.19; Gloucester, \$8,674.34; Hamilton, \$7,635.79; Haverhill, \$5,381.22; Ipswich, \$5,898.55; Lawrence, \$87,944.40; Lynn, \$4,470.50; Lynnfield, \$6,909.24; Manchester, \$11,527.20; Marblehead, \$8,564.92; Merrimac, \$13,276.90; Methuen, \$1,156.58; Middleton, \$8,171.06; Newbury, \$5,650.58; North Andover, \$6,361.18; Peabody, \$15,861.82; Rockport, \$2,891.27; Salisbury, \$5,471.25; Swampscott, \$6,819.41; Topsfield, \$5,965.05; West Newbury, \$10,920.41.

*Franklin County.*—Ashfield, \$2,457.74; Bernardston, \$1,966.18; Buckland, \$3,932.38; Charlemont, \$1,966.18; Colrain, \$10,507.24; Conway, \$2,949.27; Deerfield, \$1,966.18; Erving, \$1,966.18; Gill, \$1,966.18; Greenfield, \$19,742.99; Hawley, \$1,966.18; Heath, \$1,966.18; Leverett, \$1,966.18; Leyden, \$1,966.18; Monroe, \$3,449.67; Montague, \$14,916.35; New Salem, \$20,497.05; Northfield, \$1,966.18; Orange, \$3,727.28; Rowe, \$2,949.27; Shelburne, \$6,997.30; Shutesbury, \$13,749.09; Sunderland, \$3,527.58; Warwick, \$1,966.18; Wendell, \$5,407.00; Whately, \$1,966.18.

*Hampden County.*—Agawam, \$24,871.43; Blandford, \$4,450.32; Brimfield, \$5,027.60; Chester, \$9,830.91; Chicopee, \$30,504.19; East Longmeadow, \$8,871.10; Granville, \$5,898.55; Hampden, \$5,407.00; Holland, \$8,025.93; Holyoke, \$5,767.22; Longmeadow, \$9,138.46; Ludlow, \$9,504.71; Monson, \$6,366.01; Montgomery, \$2,949.27; Palmer, \$8,958.63; Russell, \$491.54; Southwick, \$7,228.60; Springfield, \$21,875.29; Tolland, \$4,915.46; Wales, \$3,533.34; West Springfield, \$12,273.58; Westfield, \$7,633.40; Wilbraham, \$8,454.58.

*Hampshire County.*—Amherst, \$21,363.96; Belchertown, \$23,118.99; Chesterfield, \$2,949.27; Cummington, \$3,421.96; Easthampton, \$3,196.88; Enfield, \$983.09; Goshen, \$1,966.18; Greenwich, \$491.54; Hadley, \$11,929.31; Huntington, \$4,622.77; Middlefield, \$2,949.27; Northampton, \$9,339.37; Pelham, \$10,129.38; Plainfield, \$8,905.65; South Hadley, \$1,875.97; Southampton, \$983.05; Ware, \$5,667.23; Westhampton, \$1,474.64; Williamsburg, \$1,966.18; Worthington, \$3,928.98.

*Middlesex County.*—Acton, \$5,652.77; Arlington, \$14,370.57; Ashby, \$647.68; Ashland, \$7,690.65; Ayer, \$8,414.11; Bedford, \$11,184.11; Belmont, \$2,777.27; Billerica, \$14,039.25; Boxborough, \$3,180.58; Burlington, \$6,852.72; Carlisle, \$5,551.52; Chelmsford, \$9,589.21; Concord, \$13,740.03; Dracut, \$3,469.73; Dunstable, \$4,178.14; Framingham, \$27,605.90; Groton, \$9,339.19; Holliston, \$4,423.84; Hopkinton, \$2,052.76; Hudson, \$19,363.59; Lexington, \$25,150.07; Lincoln, \$4,048.02; Littleton, \$5,592.03; Lowell, \$36,722.30; Marlborough, \$493.02; Maynard, \$16,854.51; Medford, \$48,465.57; Melrose, \$22,439.83; Natick, \$22,242.55; Newton, \$31,049.49; North Reading, \$6,129.86; Pepperell, \$5,898.20; Reading, \$792.37; Sherborn, \$24,170.69; Shirley, \$9,830.03; Stoneham, \$20,565.87; Stow, \$1,474.64; Sudbury, \$2,313.13; Tewksbury, \$15,150.99; Townsend, \$4,915.46; Tyngsboro, \$6,851.08; Wakefield, \$12,598.15; Waltham, \$22,806.23; Wayland, \$10,803.59; Westford, \$8,822.88; Wilmington, \$3,932.06; Winchester, \$38,889.40; Woburn, \$15,303.54.

*Norfolk County.*—Avon, \$9,295.52; Bellingham, \$2,605.19; Canton, \$809.61; Dover, \$5,133.87; Foxboro, \$3,473.67; Franklin, \$14,570.15; Medfield, \$982.86; Medway, \$983.09; Millis, \$3,440.82; Norfolk, \$983.09; Norwood, \$49,868.80;



Randolph, \$647.68; Sharon, \$983.09; Stoughton, \$491.55; Walpole, \$10,773.52; Weymouth, \$11,601.80; Wrentham, \$9,940.70.

*Plymouth County.* — Abington, \$12,292.72; Bridgewater, \$20,698.66; Brockton, \$19,955.46; Carver, \$3,879.58; East Bridgewater, \$11,268.11; Halifax, \$13,016.37; Hanover, \$4,079.14; Kingston, \$9,664.79; Lakeville, \$1,445.49; Marion, \$4,899.65; Marshfield, \$5,664.62; Pembroke, \$3,550.68; Plymouth, \$5,840.71; Plympton, \$925.25; Rochester, \$5,898.54; Rockland, \$10,715.03; Scituate, \$343.17; West Bridgewater, \$4,975.60; Whitman, \$11,367.87.

*Worcester County.* — Ashburnham, \$3,744.42; Athol, \$3,972.76; Auburn, \$5,823.99; Barre, \$5,617.96; Berlin, \$12,071.75; Blackstone, \$9,002.76; Bolton, \$9,531.15; Boylston, \$8,045.06; Brookfield, \$6,305.25; Charlton, \$7,100.26; Clinton, \$11,799.44; Dana, \$6,613.49; Douglas, \$5,823.02; Dudley, \$10,420.98; East Brookfield, \$2,509.77; Fitchburg, \$11,555.66; Gardner, \$1,734.87; Grafton, \$10,150.50; Hardwick, \$7,152.76; Harvard, \$3,578.55; Holden, \$12,223.30; Hubbardston, \$4,453.56; Leicester, \$9,194.79; Lunenburg, \$10,783.87; Mendon, \$6,121.50; Milford, \$18,891.80; Millbury, \$2,205.58; Millville, \$9,301.63; New Braintree, \$6,533.43; North Brookfield, \$8,680.24; Northborough, \$578.29; Northbridge, \$17,020.59; Oakham, \$8,385.53; Paxton, \$6,427.75; Petersham, \$4,907.78; Philipston, \$6,770.28; Princeton, \$14,822.68; Royalston, \$8,052.67; Rutland, \$11,150.09; Shrewsbury, \$12,164.67; Southborough, \$821.04; Southbridge, \$11,628.68; Spencer, \$10,937.07; Sterling, \$13,592.28; Sturbridge, \$3,664.91; Sutton, \$11,291.31; Templeton, \$10,236.66; Upton, \$294.93; Uxbridge, \$12,671.43; Warren, \$1,943.07; West Boylston, \$10,802.80; West Brookfield, \$3,964.17; Westboro, \$1,711.73; Westminster, \$8,044.63; Winchendon, \$1,224.91; Worcester, \$36,145.80.

# REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of Chapter 81, General Laws (Ter. Ed.) as amended by Chapter 366, Acts of 1934)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns: —

Counties and Towns	Miles of Road	Allotment	
		State	Town
<i>Barnstable County</i>			
Brewster . . . . .	40	\$6,000 00	\$5,000 00
Dennis . . . . .	78	11,700 00	7,800 00
Eastham . . . . .	42	6,300 00	3,150 00
Mashpee . . . . .	27	4,050 00	2,025 00
Sandwich . . . . .	67	10,050 00	6,700 00
Truro . . . . .	30	4,500 00	3,750 00
Welfleet . . . . .	36	5,400 00	4,500 00
<i>Berkshire County</i>			
Alford . . . . .	19	2,850 00	760 00
Becket . . . . .	58	8,700 00	2,320 00
Cheshire . . . . .	42	6,300 00	3,150 00
Clarksburg . . . . .	14	2,100 00	2,100 00
Egremont . . . . .	32	4,800 00	2,400 00
Florida . . . . .	43	6,450 00	3,225 00
Hancock . . . . .	30	4,500 00	1,200 00
Hinsdale . . . . .	35	5,250 00	2,625 00
Lanesborough . . . . .	42	6,300 00	3,150 00
Monterey . . . . .	52	7,800 00	2,080 00
Mount Washington . . . . .	20	3,000 00	500 00
New Ashford . . . . .	11	1,650 00	275 00
New Marlborough . . . . .	85	12,750 00	3,400 00
Otis . . . . .	45	6,750 00	1,800 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Peru . . . . .	37	\$5,550 00	\$555 00
Richmond . . . . .	32	4,800 00	2,400 00
Sandisfield . . . . .	79	11,850 00	1,185 00
Savoy . . . . .	56	8,400 00	840 00
Sheffield . . . . .	77	11,550 00	3,850 00
Tyringham . . . . .	25	3,750 00	1,250 00
Washington . . . . .	51	7,650 00	765 00
West Stockbridge . . . . .	36	5,400 00	3,600 00
Windsor . . . . .	65	9,750 00	975 00
<i>Bristol County</i>			
Berkley . . . . .	42	6,300 00	2,100 00
Freetown . . . . .	47	7,050 00	3,525 00
Norton . . . . .	57	8,550 00	5,700 00
Raynham . . . . .	45	6,750 00	4,500 00
Rehoboth . . . . .	109	16,350 00	8,175 00
<i>Dukes County</i>			
Chilmark . . . . .	14	2,100 00	1,750 00
West Tisbury . . . . .	13	1,950 00	1,950 00
<i>Essex County</i>			
Boxford . . . . .	53	7,950 00	3,975 00
Georgetown . . . . .	35	5,250 00	4,375 00
Groveland . . . . .	30	4,500 00	4,500 00
Merrimac . . . . .	31	4,650 00	3,875 00
Middleton . . . . .	30	4,500 00	4,500 00
Newbury . . . . .	38	5,700 00	4,750 00
Rowley . . . . .	31	4,650 00	3,875 00
West Newbury . . . . .	37	5,550 00	3,700 00
<i>Franklin County</i>			
Ashfield . . . . .	80	12,000 00	3,200 00
Bernardston . . . . .	40	6,000 00	3,000 00
Buckland . . . . .	45	6,750 00	6,750 00
Charlemont . . . . .	49	7,350 00	3,675 00
Colrain . . . . .	84	12,600 00	4,200 00
Conway . . . . .	72	10,800 00	2,880 00
Deerfield . . . . .	74	11,100 00	9,250 00
Gill . . . . .	34	5,100 00	2,550 00
Hawley . . . . .	49	7,350 00	735 00
Heath . . . . .	53	7,950 00	795 00
Leverett . . . . .	38	5,700 00	1,520 00
Leyden . . . . .	39	5,850 00	585 00
Monroe . . . . .	18	2,700 00	2,700 00
New Salem . . . . .	65	9,750 00	975 00
Northfield . . . . .	66	9,900 00	4,950 00
Rowe . . . . .	40	6,000 00	1,600 00
Shelburne . . . . .	48	7,200 00	6,000 00
Shutesbury . . . . .	38	5,700 00	950 00
Sunderland . . . . .	34	5,100 00	2,550 00
Warwick . . . . .	56	8,400 00	840 00
Wendell . . . . .	48	7,200 00	2,400 00
Whately . . . . .	40	6,000 00	3,000 00
<i>Hampden County</i>			
Blandford . . . . .	78	11,700 00	1,950 00



Counties and Towns	Miles of Road	Allotment	
		State	Town
Brimfield . . . . .	60	\$9,000 00	\$2,400 00
Chester . . . . .	68	10,200 00	3,400 00
Granville . . . . .	73	10,950 00	5,475 00
Hampden . . . . .	34	5,100 00	2,550 00
Holland . . . . .	31	4,650 00	465 00
Monson . . . . .	101	15,150 00	10,100 00
Montgomery . . . . .	27	4,050 00	675 00
Southwick . . . . .	50	7,500 00	5,000 00
Tolland . . . . .	40	6,000 00	600 00
Wales . . . . .	25	3,750 00	1,000 00
Wilbraham . . . . .	43	6,450 00	6,450 00
<i>Hampshire County</i>			
Belchertown . . . . .	109	16,350 00	4,360 00
Chesterfield . . . . .	59	8,850 00	1,475 00
Cummington . . . . .	49	7,350 00	1,225 00
Enfield . . . . .	37	5,550 00	925 00
Goshen . . . . .	28	4,200 00	700 00
Granby . . . . .	48	7,200 00	2,400 00
Greenwich . . . . .	39	5,850 00	1,560 00
Hadley . . . . .	59	8,850 00	7,375 00
Hatfield . . . . .	46	6,900 00	5,750 00
Huntington . . . . .	41	6,150 00	3,075 00
Middlefield . . . . .	41	6,150 00	615 00
Pelham . . . . .	31	4,650 00	2,325 00
Plainfield . . . . .	49	7,350 00	735 00
Prescott . . . . .	39	5,850 00	585 00
Southampton . . . . .	56	8,400 00	2,240 00
Westhampton . . . . .	50	7,500 00	750 00
Williamsburg . . . . .	44	6,600 00	3,300 00
Worthington . . . . .	68	10,200 00	1,700 00
<i>Middlesex County</i>			
Acton . . . . .	58	8,700 00	8,700 00
Ashby . . . . .	56	8,400 00	2,800 00
Ashland . . . . .	38	5,700 00	5,700 00
Bedford . . . . .	36	5,400 00	5,400 00
Boxborough . . . . .	23	3,450 00	920 00
Burlington . . . . .	34	5,100 00	5,100 00
Carlisle . . . . .	42	6,300 00	3,150 00
Dracut . . . . .	62	9,300 00	9,300 00
Dunstable . . . . .	37	5,550 00	925 00
Holliston . . . . .	50	7,500 00	7,500 00
Hopkinton . . . . .	66	9,900 00	6,600 00
Littleton . . . . .	42	6,300 00	6,300 00
North Reading . . . . .	33	4,950 00	4,950 00
Pepperell . . . . .	69	10,350 00	6,900 00
Sherborn . . . . .	43	6,450 00	5,375 00
Shirley . . . . .	46	6,900 00	4,600 00
Stow . . . . .	43	6,450 00	3,225 00
Sudbury . . . . .	64	9,600 00	6,400 00
Tewksbury . . . . .	57	8,550 00	8,550 00
Townsend . . . . .	70	10,500 00	7,000 00
Tyngsborough . . . . .	40	6,000 00	4,000 00
Westford . . . . .	85	12,750 00	10,625 00
<i>Norfolk County</i>			
Bellingham . . . . .	44	6,600 00	6,600 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Medfield . . . . .	41	\$6,150 00	\$6,150 00
Medway . . . . .	45	6,750 00	6,750 00
Millis . . . . .	42	6,300 00	6,300 00
Norfolk . . . . .	41	6,150 00	4,100 00
Plainville . . . . .	32	4,800 00	4,000 00
<i>Plymouth County</i>			
Carver . . . . .	67	10,050 00	6,700 00
Halifax . . . . .	34	5,100 00	3,400 00
Hanson . . . . .	36	5,400 00	5,400 00
Lakeville . . . . .	42	6,300 00	3,150 00
Norwell . . . . .	47	7,050 00	4,700 00
Pembroke . . . . .	49	7,350 00	6,125 00
Plympton . . . . .	30	4,500 00	2,250 00
Rochester . . . . .	50	7,500 00	3,750 00
<i>Worcester County</i>			
Ashburnham . . . . .	75	11,250 00	5,625 00
Barre . . . . .	110	16,500 00	8,250 00
Berlin . . . . .	39	5,850 00	2,925 00
Bolton . . . . .	53	7,950 00	2,650 00
Boylston . . . . .	40	6,000 00	3,000 00
Brookfield . . . . .	37	5,550 00	3,700 00
Charlton . . . . .	110	16,500 00	4,400 00
Dana . . . . .	43	6,450 00	1,075 00
Douglas . . . . .	70	10,500 00	5,250 00
Dudley . . . . .	63	9,450 00	7,875 00
East Brookfield . . . . .	19	2,850 00	2,375 00
Grafton . . . . .	58	10,200 00	10,200 00
Hardwick . . . . .	96	14,400 00	4,800 00
Harvard . . . . .	56	8,400 00	5,600 00
Holden . . . . .	77	11,550 00	7,700 00
Hubbardston . . . . .	75	11,250 00	1,875 00
Lancaster . . . . .	58	8,700 00	7,250 00
Leicester . . . . .	66	9,900 00	8,250 00
Lunenburg . . . . .	66	9,900 00	4,950 00
Mendon . . . . .	36	5,400 00	3,600 00
New Braintree . . . . .	49	7,350 00	1,225 00
North Brookfield . . . . .	69	10,350 00	6,900 00
Northborough . . . . .	47	7,050 00	5,875 00
Oakham . . . . .	45	6,750 00	1,125 00
Oxford . . . . .	66	9,900 00	8,250 00
Paxton . . . . .	29	4,350 00	2,175 00
Petersham . . . . .	70	10,500 00	3,500 00
Phillipston . . . . .	41	6,150 00	1,025 00
Princeton . . . . .	72	10,800 00	2,880 00
Royalston . . . . .	67	10,050 00	1,675 00
Rutland . . . . .	68	10,200 00	3,400 00
Southborough . . . . .	46	6,900 00	6,900 00
Spencer . . . . .	100	15,000 00	12,500 00
Sterling . . . . .	73	10,950 00	5,475 00
Sturbridge . . . . .	70	10,500 00	3,500 00
Sutton . . . . .	84	12,600 00	4,200 00
Templeton . . . . .	63	9,450 00	7,875 00
Upton . . . . .	60	9,000 00	4,500 00
Warren . . . . .	71	10,650 00	7,100 00
West Boylston . . . . .	36	5,400 00	5,400 00
West Brookfield . . . . .	53	7,950 00	3,975 00
Westminster . . . . .	77	11,550 00	5,775 00



## EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various counties were: —

Barnstable . . . .	\$49,956.06	Hampden . . . .	\$108,127.04
Berkshire . . . .	166,063.44	Hampshire . . . .	145,806.66
Bristol . . . .	48,878.58	Middlesex . . . .	239,830.91
Dukes . . . .	4,740.14	Norfolk . . . .	18,523.90
Essex . . . .	48,268.04	Plymouth . . . .	58,127.71
Franklin . . . .	182,685.97	Worcester . . . .	463,791.46
			<hr/>
			Total \$1,534,799.91

Details of the foregoing expenditures follow: —

*Barnstable County.* — Brewster, \$7,038.52; Dennis, \$11,600.52; Eastham, \$6,788.69; Mashpee, \$4,572.86; Sandwich, \$10,427.41; Truro, \$4,692.34; Wellfleet, \$4,835.72.

*Berkshire County.* — Alford, \$2,624.10; Becket, \$8,115.52; Cheshire, \$6,951.09; Clarksburg, \$2,255.48; Egremont, \$5,189.81; Florida, \$6,536.27; Hancock, \$5,388.67; Hinsdale, \$5,323.40; Lanesborough, \$7,636.20; Monterey, \$9,776.61; Mt. Washington, \$2,759.57; New Ashford, \$2,039.21; New Marlborough, \$16,155.73; Otis, \$8,771.69; Peru, \$6,283.85; Richmond, \$5,067.33; Sandisfield, \$13,004.54; Savoy, \$9,229.67; Sheffield, \$12,845.29; Tyringham, \$3,617.02; Washington, \$9,122.04; West Stockbridge, \$5,698.72; Windsor, \$11,671.63.

*Bristol County.* — Berkley, \$6,843.00; Freetown, \$7,657.64; Norton, \$9,286.93; Raynham, \$7,331.79; Rehoboth, \$17,759.22.

*Dukes County.* — Chilmark, \$2,535.17; West Tisbury, \$2,204.97.

*Essex County.* — Boxford, \$7,324.77; Essex, \$1,160.01; Georgetown, \$7,367.29; Groveland, \$4,828.47; Merrimac, \$5,050.79; Middleton, \$4,725.22; Newbury, \$5,669.64; Rowley, \$4,334.40; Topsfield, \$1,895.76; West Newbury, \$5,911.69.

*Franklin County.* — Ashfield, \$13,631.69; Bernardston, \$6,544.30; Buckland, \$6,951.62; Charlemont, \$8,282.20; Colrain, \$13,441.61; Conway, \$11,432.16; Deerfield, \$11,649.40; Gill, \$6,462.93; Hawley, \$7,820.57; Heath, \$8,635.22; Leverett, \$5,865.43; Leyden, \$6,327.06; Monroe, \$2,987.03; New Salem, \$11,692.30; Northfield, \$11,730.86; Rowe, \$6,571.45; Shelburne, \$7,630.49; Shutesbury, \$6,218.44; Sunderland, \$5,539.58; Warwick, \$8,445.13; Wendell, \$8,309.36; Whately, \$6,517.14.

*Hampden County.* — Blandford, \$12,858.50; Brimfield, \$10,714.40; Chester, \$13,663.55; Granville, \$11,893.79; Hampden, \$5,648.19; Holland, \$5,394.88; Monson, \$16,950.85; Montgomery, \$4,656.95; Southwick, \$8,064.97; Tolland, \$6,912.13; Wales, \$4,281.60; Wilbraham, \$7,087.23.

*Hampshire County.* — Belchertown, \$18,166.54; Chesterfield, \$9,612.79; Cummington, \$7,983.50; Enfield, \$6,707.23; Goshen, \$4,562.00; Granby, \$7,820.57; Greenwich, \$6,001.20; Hadley, \$9,612.79; Hatfield, \$7,413.25; Huntington, \$7,276.23; Middlefield, \$6,644.28; Pelham, \$4,806.39; Plainfield, \$7,847.73; Prescott, \$6,299.91; Southampton, \$9,124.00; Westhampton, \$8,146.43; Williamsburg, \$7,168.72; Worthington, \$10,613.10.

*Middlesex County.* — Acton, \$13,468.76; Ashby, \$11,405.00; Ashland, \$7,114.55; Bedford, \$6,408.53; Boxborough, \$4,724.93; Burlington, \$6,680.07; Carlisle, \$10,101.57; Dracut, \$12,925.67; Dunstable, \$7,874.88; Groton, \$1,683.60; Holliston, \$11,513.62; Hopkinton, \$14,880.81; Lincoln, \$706.03; Littleton, \$8,417.98; North Reading, \$6,843.00; Pepperell, \$13,631.69; Sherborn, \$9,775.72; Shirley, \$9,124.00; Stow, \$8,852.45; Sudbury, \$16,292.86; Tewksbury, \$14,337.72; Townsend, \$15,423.91; Tyngsborough, \$7,114.55; Westford, \$20,529.01.

*Norfolk County.* — Bellingham, \$2,471.49; Medfield, \$3,898.28; Medway, \$2,928.59; Millis, \$2,643.60; Norfolk, \$3,661.40; Plainville, \$2,920.54.

*Plymouth County.* — Carver, \$9,980.55; Halifax, \$6,067.30; Hanson, \$6,803.66; Lakeville, \$6,962.49; Norwell, \$7,563.15; Pembroke, \$7,795.37; Plympton, \$4,790.87; Rochester, \$8,164.32.

*Worcester County.* — Ashburnham, \$14,442.83; Barre, \$20,235.17; Berlin, \$6,405.89; Bolton, \$7,124.10; Boylston, \$7,953.98; Brookfield, \$7,447.73; Charlton, \$15,547.26; Dana, \$7,005.93; Douglas, \$13,512.56; Dudley, \$8,958.13; East Brook-



field, \$2,729.63; Grafton, \$11,270.79; Hardwick, \$13,974.93; Harvard, \$9,124.00; Holden, \$13,422.26; Hubbardston, \$14,053.65; Lancaster, \$9,449.86; Leicester, \$10,587.69; Lunenburg, \$14,071.94; Mendon, \$5,865.43; New Braintree, \$9,-415.75; North Brookfield, \$9,404.38; Northborough, \$7,821.05; Oakham, \$8,-261.08; Oxford, \$11,816.42; Paxton, \$4,973.40; Petersham, \$11,947.22; Phillipston, \$8,839.02; Princeton, \$15,121.11; Royalston, \$11,429.56; Rutland, \$11,560.66; Southborough, \$7,727.25; Spencer, \$16,753.55; Sterling, \$14,905.07; Sturbridge, \$15,568.80; Sutton, \$15,319.49; Templeton, \$12,043.22; Upton, \$12,-512.50; Warren, \$14,899.31; West Boylston, \$6,280.78; West Brookfield, \$10,-609.41; Westborough, \$1,513.35; Westminster, \$11,885.32.

#### THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW (Sections 29-33, Chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 and 33 inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within public view of any highway, public park or reservation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

*Applications, Licenses and Permits.*—Licenses were granted to (21) individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 614 applications received for permits for the erection of advertising signs, 103 permits were granted for the year, while (449) applications are being held awaiting the decision of the United States Supreme Court of the case of the General Outdoor Advertising Company and others against the Department of Public Works. Fifty-seven permits were granted on applications filed previous to 1935, while (36) applications for permits were cancelled.

Of 3,135 renewal applications sent to those whose permits were to expire June 30, 1936, 2,906 were returned to the Department requesting renewal; and on account of the advertisers failing to renew, 223 permits were cancelled. The number of renewal applications approved was 2,683. The total number of permits in force Nov. 30, 1935, was 2,783.

*Receipts and Expenditures.*—The total receipts for the year ending Nov. 30, 1935, were \$9,202.11 and the expenditures were \$15,253.09.

*The Removal of Signs.*—The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 60,000 signs during the year in addition to 5,000 removed by other agents of the Department, under authority of section 30A, Chapter 93, General Laws, from within the highways and from private property.

*Injunction.*—On June 19, 1925, a temporary injunction was granted to the General Outdoor Advertising Company and others, complainants in an action against the Department of Public Works, restraining the Department from enforcing its rules and regulations against the complainants as to all existing signs and advertising devices maintained by them. On Jan. 10, 1935, the Supreme Court of the Commonwealth rendered its decision in the billboard case and upheld the right of the State to regulate and restrict outdoor advertising. The injunction thereafter became legally ineffective but its terms were continued by mutual agreement pending the outcome of the complainants' appeal to the United States Supreme Court. This is the situation at present, with a prospect of an early disposition of the pending appeal, which, if favorable to the Department, will place all "injunction boards" under State Control. It is estimated that there are approximately nine thousand such boards now maintained throughout the Commonwealth.



## REGISTRY OF MOTOR VEHICLES

The 1935 statistics continue the increases in the various classes of applications handled. Inquiries by telephone, by letter, and at the counter for information from records and data in the files remain heavy and the number and nature of these inquiries, although not an item showing anywhere in the reports of the Registry, account for a sizeable proportion of the work of the clerical force.

Highway safety, the ever-present problem of the Registrar, received every possible attention during the year. The required annual inspection of motor vehicles was made semi-annually and, so far as possible, particularly on week-ends and holiday periods, the services of inspectors and examiners not required on their regular work of investigating fatal and serious accidents and giving examinations were utilized on law enforcement work. In many instances, inspectors worked with the local police and in this way, and others, the police, as well as the various safety committees, continued their co-operation in matters having to do with highway safety.

The second annual rush for registration plates in the new building was carried on even more effectively than the year before and, as usual, a large detail of State police contributed to the efforts made to handle the large proportion of the public who still insisted on waiting until the last few days of the year to secure their plates.

The initial installation of the teletypewriter service of 1934, connecting the Worcester and Springfield offices with the Boston office, was extended to Pittsfield. In addition, a new line, connecting Lawrence and Lowell, was installed and later during the year the Lynn office was added. A new line, connecting Fall River and New Bedford, with the Boston office, was installed and later Quincy and Brockton were added to this line. These machines made available to these branches, and therefore to the public being served at these various branches, almost immediately, any information they may require from the records at Boston.

The Diebold system of cash guards, consisting of a cash drawer which automatically deposits money in a safe below, all equipped with holdup and burglary alarms and time-locks, were installed at all of the tellers' cages at the Boston office and also in the cashier's office. These cash drawers and strong boxes, equivalent to safes, are all hooked up to the American District Telegraph Company Burglary and Holdup Alarm System, and a number of foot and hand buttons at convenient points at the Registry counters and lobbies offer considerable protection in the case of a daylight holdup or night burglary. When an alarm is sounded all of the cash drawers close, the safes are all locked and nobody can open the safes and get at the money until the allowed period of time has elapsed, and further an alarm is sounded at the A. D. T. switchboard where, in turn, the holdup is reported to the police and over the radio and teletype, etc.

A few of the outstanding figures for the year as compared with those of the previous year are as follows:

	1934	1935
Motor vehicle certificates of registration issued . . . . .	945,488	968,553
Compulsory insurance cancellation notices received . . . . .	86,406	79,401
Licenses to operate issued . . . . .	1,053,527	1,077,880
Examinations of applicants for licenses . . . . .	83,031	82,136
Licenses and registrations revoked and suspended . . . . .	52,505	52,317
Licenses revoked for driving under influence of liquor . . . . .	5,717	6,264
Total number of applications handled . . . . .	2,076,600	2,125,898
Gross receipts from fees . . . . .	\$6,202,907.26	\$6,310,424.28

### REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a 2.47% increase in passenger registrations and a 1.74% increase in commercial registrations over the previous year, while the motor cycle registrations happened to be identical for both the years 1934 and 1935.

	1905	1915	1925	1929 <sup>1</sup>	1934	1935
Passenger cars . . . . .	4,889	90,580	663,858	905,636	831,853	852,934
Commercial vehicles . . . . .	—	12,053	100,480	113,268	112,260	114,244
Motor cycles . . . . .	553	9,520	10,333	6,168	1,375	1,375
Totals . . . . .	5,442	112,153	774,671	1,025,072	945,488	968,553

## EXAMINATIONS FOR LICENSES

The system of examining prospective operators of motor vehicles was not changed in any respect during the year 1935, the appointment system being continued and the examination consisting of the usual demonstration on the highways, a reading test, an eye test, and a test of the applicant as to his knowledge of the motor vehicle law. The number of persons examined decreased slightly at the fifty-five examining points with the following results:—

	1934	1935
Operators passed . . . . .	73,900	74,598
Operators unfit . . . . .	8,037	7,058
Restriction removal, passed . . . . .	1,765	1,244
Restriction removal, unfit . . . . .	176	125
"Competency," passed . . . . .	208	212
"Competency," unfit . . . . .	37	23
Total examinations . . . . .	84,123	83,260

## BRANCH OFFICES

The larger branches of the Registry of Motor Vehicles are equipped with teletype machines which enable them to render practically every service to the public that is rendered at the main office in Boston, including hearings with regard to the suspension and restoration of licenses and furnishing all data from records of the central office. Each branch office serves as a headquarters for the district in which it is located, both as to the issuance and distribution of number plates and licenses, and law enforcement.

Three new offices were opened in November this year, one at Haverhill, one at Waltham, and one at Malden. The work of these branches for the few days they were open during the fiscal year is included in the figures for Boston.

The following table gives the approximate figures:—

## APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Registrations	First Licenses	License Renewals	Miscellaneous	Totals
Boston:					
Counter . . . . .	210,000	—	181,000	99,000	490,000
Mail . . . . .	162,000	—	390,000	10,000	562,000
Examination . . . . .	—	23,000	—	2,000	25,000
Pittsfield . . . . .	22,000	2,300	20,000	6,000	50,300
Springfield . . . . .	53,000	6,500	59,000	20,000	138,500
Greenfield . . . . .	11,000	1,500	11,000	4,500	28,000
Northampton . . . . .	13,000	1,000	12,000	4,500	30,500
Worcester . . . . .	49,000	7,000	50,000	20,000	126,000
Fitchburg . . . . .	19,000	1,500	17,000	6,000	43,500
Framingham . . . . .	24,000	2,000	17,000	8,000	51,000
Lawrence . . . . .	31,000	4,000	32,000	10,000	77,000
Lowell . . . . .	23,000	3,000	23,000	7,000	56,000
Fall River . . . . .	23,000	4,000	23,000	7,000	57,000
New Bedford . . . . .	22,000	2,500	27,000	8,000	59,500
Lynn . . . . .	50,000	7,000	48,000	16,500	121,500
Quincy . . . . .	31,000	5,500	35,000	12,500	84,000
Brockton . . . . .	37,000	3,000	34,000	14,500	88,500
Hyannis <sup>2</sup> . . . . .	12,000	2,000	7,000	3,500	24,500
	792,000 <sup>4</sup>	75,800	986,000	259,000 <sup>3</sup>	2,112,800

<sup>1</sup> Peak year.

<sup>2</sup> Includes Oak Bluffs and Nantucket.

<sup>3</sup> This figure includes approximately 182,000 number plate reissues.

<sup>4</sup> Does not include reissues (see Miscellaneous).



### COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures show the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle Causes for Cancellation of Policies:

liability insurance.	1934	1935
For non-payment of premiums . . . . .	56,901	61,413
For other reasons . . . . .	29,505	17,988
Total . . . . .	86,406	79,401
Origin of requests for Cancellation of Policies:		
Insurance companies . . . . .	80,550	49,204
Finance companies . . . . .	5,856	30,197
Total . . . . .	86,406	79,401
Disposition of applications for cancellation:		
Replacement certificates, adjusting cancellations . . . . .	7,046	6,524
Reinstatements, adjusting cancellations . . . . .	40,550	43,394
Sets of plates returned before effective date of cancellation . . . . .	10,432	5,080
Revocations . . . . .	28,378	24,403
Total . . . . .	86,406	79,401
Return of Plates:		
Returned promptly after revocation . . . . .	16,481	13,503
By Police and Registry Inspectors . . . . .	7,525	6,510
Not returned . . . . .	4,372	4,390
Total revocations . . . . .	28,378	24,403

### . \* PROPERTY DAMAGE

Under the provisions of Section 22A of Chapter 90, General Laws, the Registrar may, upon receipt of evidence satisfactory to him, suspend the license of any operator who has failed to satisfy a judgment rendered against him after sixty days in any case in which such operator is the defendant in an action brought to recover damages for injuries to property arising out of the use, operation or maintenance on the ways of the Commonwealth of a motor vehicle or trailer.

The following figures indicate the number of cases in which successful plaintiffs availed themselves of the additional facilities provided in the law for recovering damages and the action taken thereon:

	1934	1935
Complaints received . . . . .	410	560
Releases received, no action being necessary . . . . .	82	141
Licenses or right to operate suspended . . . . .	328	419
Licenses or right to operate reinstated after suspension . . . . .	138	206

### AIRCRAFT

Another stride in aviation in Massachusetts was made this year when the Legislature enacted as the aviation law of Massachusetts the Uniform Aeronautical Code, repealing thereby the existing aviation statutes. Massachusetts was the 37th state in the Union to adopt the Uniform Aeronautical Code and under this law (effective October 14, 1935) every pilot and owner, both resident and non-resident, must obtain a Federal license and subsequently register such license with the state.

In the following statistics, special attention is directed to the fact that not a single fatal airplane flying accident occurred and accidents involving personal injuries dropped 20 per cent, which important improvement we attribute to rigid enforcement.

The program to have every community in the state air marked is well under way with 11 new markers already completed under the sponsorship of this section.

Close co-operation with the Bureau of Air Commerce of the Federal Government, the Governor's Committee on Aeronautics, the Federal ERA and aviation officials of other states has been accomplished, so that Massachusetts is doing everything possible to further and promote the progress of aviation within its boundaries.

The following figures summarize the work of the Aviation Section:

	1934	1935
Pilots' licenses issued . . . . .	13	2
Pilots' permits issued . . . . .	260	255
Pilots examined by flight tests . . . . .	7	0
Pilots checked . . . . .	275	275
Aircraft registered . . . . .	22	12
Aircraft permits issued . . . . .	242	223
Aircraft inspected . . . . .	315	249
Duplicates and certified copies issued . . . . .	6	2
Fees received . . . . .	\$376	\$142
Suspensions of licenses and rights to fly . . . . .	38	20
Aircraft grounded . . . . .	76	61
Reinstatements of licenses, rights and groundings . . . . .	81	58
Court prosecutions . . . . .	0	2
Rulings promulgated . . . . .	1	0
Airport disapproved . . . . .	1	0
Survey of fields . . . . .	86	25
Surveys of buildings for air marking . . . . .	0	17
Air markers completed under our promotion . . . . .	0	11
Investigations by aircraft inspectors . . . . .	1,116	1,051
Airplane accidents . . . . .	53	48

	1934	1935
Fatal accidents . . . . .	3	0
Personal injury accidents . . . . .	12	8
No injury accidents . . . . .	38	40
Persons killed . . . . .	6	0
Persons injured . . . . .	20	16
Ground accidents		
Fatal accidents . . . . .	0	1
Personal injury accidents . . . . .	0	2
No injury accidents . . . . .	13	4
Persons killed . . . . .	0	1
Persons injured . . . . .	0	2

INSPECTION OF MOTOR VEHICLE EQUIPMENT

Operating under new regulations made by the Registrar, two inspections of all vehicles registered in the Commonwealth were conducted at official inspection stations designated by the Registrar.

The great majority of these stations have now been operating under the supervision of the Equipment Section for a period of five or six years and, in general, perform the work honestly and efficiently. It was found necessary to cancel 118 stations because of faulty equipment work, failure to comply with instructions, or overcharging.

The inspections were held during the months of May and September. The results of the inspections confirmed the opinion previously held that one inspection a year is not enough to secure the desired results, but that by means of two inspections, motor vehicle equipment was maintained in reasonably good condition throughout the year. It was also found, as might be expected, that brakes, lights and other equipment were in better condition when inspected in September than in May. Approximately 800,000 pleasure cars, trucks, trailers and buses were inspected during each period. The results may be summarized as follows:



	May	September
O.K. . . . .	26%	36%
Foot Brake . . . . .	22%	17%
Emergency Brake . . . . .	13%	10%
Lights . . . . .	59%	49%
Horn . . . . .	2%	3%
Muffler . . . . .	1%	1%
Steering Gear . . . . .	2%	3%
Windshield Cleaner . . . . .	3%	4%
Number Plates . . . . .	2%	1%

School Bus Inspections

As required by Chapter 271 of the Acts of 1932, the Equipment Section examined or supervised the inspection of all school buses operated in Massachusetts under contract with cities or towns or owned by cities or towns five times during the year, during the first weeks of January, March, May, September and November. In each case, about 775 vehicles were submitted for inspection. The inspections in January, March and May were conducted under the system which had been in effect for the three years previous, the vehicles being examined by inspectors attached to this dpartment at various designated examining points throughout the state. The September and November inspections were made under the supervision of this Section at official inspection stations. This change in the examining system was made in order to relieve inspectors of this department for more important duties, consisting principally of enforcement and equipment work on the highways. The improvement in school bus equipment previously noted and referred to in the last annual report was continued. Many new buses have been put in operation to replace those which failed to meet the requirements of the School Bus Act, but which were protected by the provisions of that Act for a period of three years if under contract on August 26, 1932.

Brakes, Lights and Overloads

During the greater part of the year, only 18 men were regularly assigned to equipment work. Beginning early in October, however, the Registrar reduced investigating and examining work to a minimum, which permitted practically full-time services of approximately 75 men for enforcement and equipment work. That this law enforcement on the road, directed particularly to motor vehicle brakes, in conjunction with the two equipment inspections held during the year, was effective in reducing accidents was reflected in the accident statistics for the year, showing a decrease of approximately 14% in fatal accidents and 9% in non-fatal accidents. In addition to their duties in connection with the periodic inspections of motor vehicles and school buses, including the direction of the work of over two thousand official inspection stations, the inspectors assigned to equipment work did considerable road work in enforcing the laws and regulations respecting equipment. This work may be summarized as follows:

Reports of Defective Equipment . . . . .	3,578
Reports of Overloading . . . . .	205
Light tags issued . . . . .	50,872
Brake tags issued . . . . .	6,975
Reports of Vehicles not Inspected . . . . .	1,389

Reports received and tags issued by the inspectors led to the revocation or suspension of 1,784 registrations for the following reasons:

Defective Brakes . . . . .	1,028
Defective Lights . . . . .	375
Defective Windshields . . . . .	52
Failure to be Inspected . . . . .	141
Overloading . . . . .	19
Miscellaneous . . . . .	149

Equipment Inspectors also reported 2,863 cases of improper operation for action by the Registrar, leading to suspension of license or other action.

Headlamps, Tail Lamps and Reflex Reflectors

No new headlamps were approved, but several extensions of approval were granted during the year. Approval was granted to 16 new tail lamps and 8 reflex reflectors.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths in connection with the operation of motor vehicles in the year 1935 numbered 795, a decrease of 126 or 13.7% as compared with the record of the previous year. A comparative table of classified fatalities, injuries and collisions in the years 1934 and 1935 is as follows:

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1934	1935	1934	1935
Pedestrians by autos . . . . .	529	471	15,761	14,306
Pedestrians by motorcycles . . . . .	0	0	41	22
Pedestrians near street cars . . . . .	5	3	24	49
Occupants of autos . . . . .	313	265	35,187	31,750
Occupants of autos at R. R. crossings . . . . .	20	14	46	36
Occupants of motorcycles . . . . .	14	12	173	161
Bicycle riders . . . . .	16	7	950	981
Occupants horse-drawn vehicles . . . . .	4	3	226	148
Coasters on sleds . . . . .	18	17	537	837
Coasters on wheels . . . . .	2	3	110	131
Totals . . . . .	921	795	53,055	48,421
	Children Killed		Children Injured	
	1934	1935	1934	1935
Boys . . . . .	120	91	6,891	6,597
Girls . . . . .	60	36	3,744	3,468
Totals . . . . .	180	127	10,635	10,065

Number of Collisions

	1934	1935
Collision with pedestrian . . . . .	15,888	14,619
Collision with automobile . . . . .	22,015	20,143
Collision with horse-drawn vehicle . . . . .	285	197
Collision with railroad train . . . . .	37	29
Collision with street car . . . . .	352	305
Collision with fixed object . . . . .	2,299	1,961
Collision with bicycle . . . . .	970	997
Non-Collisions (overturn) . . . . .	804	754
Collision with motorcycle . . . . .	229	187
Collision with sled . . . . .	481	740
Collision with animal . . . . .	103	70
Coaster on wheels . . . . .	112	136
Totals . . . . .	43,575	40,138
In the daytime . . . . .	25,283	24,081
After dark . . . . .	18,292	16,057
Totals . . . . .	43,575	40,138

ACCIDENT REPORT LETTERS

As provided by section 26, chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received from operators in 1935 was 44,624 as compared



with 46,651 received in 1934. Under the requirements of section 29, chapter 90, General Laws, 18,304 similar reports of accidents were received from police departments throughout the State in 1935 as against 19,895 received in 1934. In addition, in connection with this reporting of accidents by operators during the year 1935 there were received 10,369 letters of complaint reporting improper operating, as compared with 11,115 such letters in 1934.

### COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor- Cycles Registered	Total Regis- trations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Sus- pensions and Revo- cations	For Operat- ing Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824
1933	930,493	1,023	931,516	769	48,249	1,022,662	56,691	4,274
1934	944,113	1,375	945,488	921	53,055	1,053,527	52,505	5,717
1935	967,178	1,375	968,553	795	48,421	1,077,880	52,317	6,264

### INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, violations of the laws concerning brakes and headlights, inspection of garages, miscellaneous complaints, and the prosecution of motorists in court. The table below shows the wide range of these activities of the inspectors, and shows a decrease in the total number of cases handled. This decrease, however, is due to the far greater amount of enforcement work done on the road by the inspectors.

#### Classification of Reports

	1934	1935
Accidents, fatal . . . . .	848	778
Accidents, non-fatal . . . . .	5,406	5,279
General reputation . . . . .	6,649	6,246
Miscellaneous . . . . .	13,799	13,386
Totals . . . . .	26,702	25,689
Complaints filed . . . . .	14,287	15,384
Official stations inspected . . . . .	9,700	13,829
Headlights, brakes, etc. . . . .	21,295	*62,962
Prosecutions . . . . .	1,004	839
Amount of fines . . . . .	\$26,158	\$26,870

#### Revocations and Suspensions

	1934	1935
Licenses suspended . . . . .	10,818	12,646
Licenses revoked . . . . .	4,205	4,452
Rights suspended . . . . .	4,838	5,302

\* Increase due in part to change to semi-annual equipment examinations.

P. D. 54		69
Rights revoked . . . . .	295	285
Certificates suspended . . . . .	1,592	2,966
Certificates revoked . . . . .	28,549	24,561
Certificates and licenses suspended . . . . .	27	26
Certificates and licenses revoked . . . . .	1,947	1,849
Certificates revoked and rights suspended . . . . .	141	124
Rights in Massachusetts suspended . . . . .	93	106

Totals . . . . .	52,505	52,317
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Resulting from investigations . . . . .	12,541	13,171
Resulting from court convictions . . . . .	9,886	12,394
Resulting from police complaints . . . . .	1,578	1,969
Resulting from judges' complaints . . . . .	8	3
Resulting from state police complaints . . . . .	116	377
Resulting from insurance cancellations . . . . .	28,376	24,403

Totals . . . . .	52,505	52,317
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*Character of Offenses*

	1934	1935
Reckless and endangering life . . . . .	1,570	1,774
Liquor convictions . . . . .	4,927	4,917
Going away after accidents . . . . .	388	385
Without authority . . . . .	706	596
Racing . . . . .	4	0
Improper person . . . . .	5,330	5,394
Improper person, liquor . . . . .	790	1,347
Improper operation . . . . .	6,962	5,858
Two overspeeds . . . . .	38	111
Three overspeeds . . . . .	6	3
Insurance cancellations . . . . .	28,376	24,403
Insurance convictions . . . . .	335	352
Improper equipment, miscellaneous . . . . .	146	513
Improper equipment, lights . . . . .	102	357
Improper equipment, brakes . . . . .	278	1,000
Failure to display stickers . . . . .	73	0
Fatal accidents . . . . .	847	743
Property damage cases . . . . .	325	388
Other offenses . . . . .	262	193
New parking violations . . . . .	999	3,447
Overloading, trucks . . . . .	41	19
Sixty milers . . . . .	—	495
Four complaints . . . . .	—	22

Totals . . . . .	52,505	52,317
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Formal hearings . . . . .	8,703	8,995
Court recommendations adopted: —		
Reckless and endangering . . . . .	32	19
Going away after accidents . . . . .	5	2
Without authority . . . . .	0	0
Allowing improper person to operate . . . . .	0	1

Totals . . . . .	37	22
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Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned .	3,621	4,620
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## ANALYSIS OF COURT ABSTRACTS RECEIVED

Number of courts forwarding abstracts . . . . .	95	95
Total abstracts received . . . . .	48,443	51,695
Number of abstracts recording convictions . . . . .	32,034	29,899

*Offenses*

(Analysis of convictions, not including appeals)

	1934	1935
Overspeeding . . . . .	7,565	9,399
Reckless driving . . . . .	8	43
Operating under influence of liquor . . . . .	5,306	3,940
Using auto without authority . . . . .	1,334	762
Endangering lives . . . . .	2,499	1,976
Not stopping after causing injury . . . . .	908	761
Without license . . . . .	2,795	2,566
Without registration certificate . . . . .	580	417
Unregistered vehicle . . . . .	398	374
Improper display or no register number . . . . .	147	198
Refusing to stop on signal . . . . .	271	394
Unlighted lamps . . . . .	376	287
Not signalling . . . . .	3	3
Dazzling lights . . . . .	0	7
Operating within 8 feet of street car . . . . .	54	67
Violation of Metropolitan Park rules . . . . .	292	94
Operating after suspension or revocation of license . . . . .	657	496
Larceny . . . . .	358	183
Manslaughter . . . . .	1	4
Miscellaneous . . . . .	1,303	799
Lenses not approved . . . . .	0	0
No reflector . . . . .	0	6
Racing . . . . .	5	1
Operating after registration certificate revoked . . . . .	2	3
No rear light . . . . .	20	57
Not displaying lights . . . . .	36	296
Passing red light . . . . .	484	347
Improper lights . . . . .	157	80
Brakes not as required by law . . . . .	209	263
Violation of insurance law . . . . .	408	401
Not slowing down approaching pedestrian . . . . .	18	39
Not slowing down at intersecting way . . . . .	3,980	3,859
Violation of law of road . . . . .	1,723	1,657
Perjury—making false statements on license application, falsely impersonating or conspiring to obtain a license . . . . .	40	22
Loaning license to another . . . . .	5	11
Allowing intoxicated person to operate . . . . .	4	10
No windshield cleaner . . . . .	0	1
Attempted larceny . . . . .	33	13
Allowing improper person to operate . . . . .	55	73
Totals . . . . .	32,034	29,899

## USED CAR SECTION

(Motor Vehicle Identification)

The following is a résumé of the work accomplished by the Used Car Section which indexes, under engine numbers, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen-vehicle records. Dealers' and repairmen's plates and registration certificates are issued by this section.

The work of the section is summarized in the following tables: —

Dealers			1934	1935
Total number of first-class dealers reporting . . . . .			1,178	1,187
Total number of second and third-class dealers reporting . . . . .			568	559
			<hr/>	<hr/>
Total number making reports to this office . . . . .			1,746	1,746

Reports				
Approximate number of notices of intended sales received daily . . . . .			309	302
Approximate number of dealers' reports received daily . . . . .			953	1,107

Motor Vehicles Stolen				
Number stolen in Boston . . . . .			5,121	4,479
Number stolen in Massachusetts (including Boston) . . . . .			7,427	6,022
Number reported stolen from various sources throughout the country, including Massachusetts . . . . .			21,868	20,245
Number of motor vehicles recovered through information furnished by this office . . . . .			385	283

Engine and Serial Numbers				
Engine numbers assigned to cars . . . . .			16	13
Certificates issued authorizing the replacement of engine numbers . . . . .			588	379
Certificates issued authorizing the replacement of serial numbers . . . . .			252	167
Certificates issued authorizing the replacement of both engine and serial numbers . . . . .			16	20
Total number of authorization certificates issued . . . . .			856	566

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

The department was represented at meetings of the Conference held at Hartford, Conn., May 16 and 17, and New York City October 24 and 25, 1935.

Many matters of common interest to the motor vehicle administrators of the member states were studied and discussed, including programs for highway safety campaigns, methods for procuring uniform enforcement of motor vehicle laws, methods for controlling the speed of motor vehicles, instruction in high schools on motor vehicle operation, physical and mental examination of motor vehicle operators, curbing motor vehicle thefts, the problem of the drunken operator, and the procedure in suspension and revocation of operators' licenses.

The meetings resulted in beneficial gains of knowledge concerning the constantly increasing duties and problems of the administrators, and served to renew a strong spirit of cordial and helpful co-operation.

ANALYSIS OF RECEIPTS

The fees received for the year 1935, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:

Certificates of Registration:				
Passenger cars (including taxicabs) . . . . .	848,406	\$2,458,421	80	
Commercial cars . . . . .	114,244	1,282,453	42	
Busses . . . . .	4,528	107,830	50	
Trailers . . . . .	506	25,623	50	
Motor cycles . . . . .	1,375	1,859	75	
Manufacturers or Dealers (including repairers) . . . . .	3,228	9,683	00	
Manufacturers or Dealers additional cars (including repairers) . . . . .	18,027	54,080	00	
Licenses to operate:				
Original licenses . . . . .	75,807	151,567	00	
Renewal licenses . . . . .	1,002,073	2,003,937	50	



Examinations . . . . .	65,484	\$130,968 00	
Re-examinations . . . . .	16,652	16,652 00	
			147,620 00
Total examinations . . . . .	82,136		
Copies of certificates and licenses furnished . . . . .		35,830	35,829 50
Duplicate number plates furnished . . . . .		15,545	15,543 25
Miscellaneous receipts, process fees, etc. . . . .			15,975 06
Total amount of fees . . . . .			\$6,310,424 28
Motor vehicle fees rebated (deducted) . . . . .			64,716 68
Net fees . . . . .			\$6,245,707 60
Court fines received by the Treasurer and Receiver-General <sup>1</sup> . . . . .			43,035 83
Total receipts (not including gasoline tax <sup>2</sup> ) credited Highway Fund Account, 1935 . . . . .			\$6,288,743 43

<sup>1</sup> Beginning January 1, 1935, due to an amendment of the law (Acts of 1934, Ch. 364), the motor vehicle fines are turned over directly to the various cities and towns.

<sup>2</sup> Receipts from the gasoline tax are credited to the Highway Fund but are collected through the office of the Commissioner of Corporations and Taxation.

#### EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1935 was \$1,461,200.75 which was 23% of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$4,827,542.68 available for legislative appropriation for highway work.

#### ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1935

##### *Payrolls*

Personal Services:			
Regular payroll . . . . .		\$935,062 60	
Temporary employees' payroll . . . . .		27,412 41	
Overtime payroll . . . . .		6,434 93	
			\$968,909 94

##### *Expenses*

Supplies:			
Books, maps, etc. . . . .		\$942 93	
Typewriter supplies . . . . .		1,750 56	
Adding machine repairs and supplies . . . . .		25 30	
Other supplies . . . . .		4,652 21	
Stationery . . . . .		17,016 97	
Typewriter repairs . . . . .		188 90	
Other repairs . . . . .		725 21	
			\$25,302 08
Equipment and Furniture:			
Typewriter machines . . . . .		\$5,926 84	
Adding machines . . . . .		1,643 62	
Other machines . . . . .		7,629 70	
Desks . . . . .		679 01	
Bookcases, tables, etc. . . . .		662 38	
Filing cabinets . . . . .		5,416 11	
Chairs . . . . .		408 63	
Dictograph . . . . .		1,785 85	
Soundex . . . . .		27,151 32	
Headlight Equipment . . . . .		1,877 72	
Diebold Installation . . . . .		3,951 00	
Burglar Alarm System . . . . .		261 48	
Uniforms . . . . .		5,342 00	
Branches — Counters, Safe . . . . .		3,168 65	
			\$65,904 31

## Traveling Expenses:

Officials . . . . .	\$1,400 45
Employees . . . . .	18,191 42
Aviation . . . . .	3,593 62
Automobiles (owned by employees) . . . . .	76,764 21
Automobiles (owned by State):	
Maintenance of 12 automobiles . . . . .	4,305 71
Purchase of 1 automobile . . . . .	309 48

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\$104,564 89

## Other Services and Expenses:

Expressage . . . . .	\$3,899 25
Postage . . . . .	81,537 08
Paper for printing . . . . .	9,383 02
Printing:	
Other reports . . . . .	2,140 63
Other printing . . . . .	11,610 05
Telephone . . . . .	5,155 11
Premium on Bonds of Employees . . . . .	460 62
Rent . . . . .	300 00
Cleaning and Janitor Services . . . . .	837 00
Labor . . . . .	1,022 10
Number plates . . . . .	131,647 00
Direct Mail Lists . . . . .	11,000 00
Sundries . . . . .	359 25

## Branch Offices:

Rent, Telephone, Lighting . . . . .	27,194 91
Labor and Services . . . . .	6,336 75
Supplies and Express . . . . .	2,674 49

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\$295,557 26*Publicity for Safety Work*

Labels, tags, postage and printing . . . . .	\$962 27
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\$1,461,200 75*Summary*

Payrolls . . . . .	\$968,909 94
Expenses . . . . .	491,328 54
Publicity for Safety Work . . . . .	962 27

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\$1,461,200 75

## RELATING TO WATERWAYS AND PUBLIC LANDS BOSTON HARBOR

### The Commonwealth Flats at South Boston

#### *Commonwealth Pier 5*

The work necessary to maintain the effective operation of the pier has been continued during the year. Repairs have been made to gangways and floating fenders, to elevators and elevator machinery and to the heating plant.

Under contract of Oct. 30, 1934, with W. H. Ellis and Son Company repairs to pile and timber work were completed Feb. 8, 1935, at a contract cost of \$2,680.40.

Repairs to roof coverings at the pier, under contract of Nov. 7, 1934, with the Atlantic Roofing and Skylight Works, were completed May 21, 1935, at a contract cost of \$310.97.

The painting of doors and sash in the Headhouse, under contract of Nov. 13, 1934, with John S. Leonard, was completed Dec. 21, 1934, at a contract cost of \$285.

Under contract of Nov. 13, 1934, with Maurice M. Devine for replacing existing steel sash and broken glass in the lightwells, work was completed Apr. 17, 1935, at a contract cost of \$7,150.



Repairs to the linings of the boilers at the heating plant, under letter contract of July 25, 1935, with Plibrico Jointless Firebrick Company, were completed July 31, 1935, at a contract cost of \$569.22.

The Department of Public Safety requested in September authorization for the use of space for offices on the second floor of the pier. Under an agreement executed in November the use of about 28,700 square feet of space was granted at a rental of \$28,000 per year. To provide adequate quarters for office use it has been necessary to install additional plumbing and to build partitions.

A contract was made on Nov. 5, 1935, with Morris Slotnick for the construction of wood frame and glass office partitions. This work was completed Nov. 23, 1935, at a contract cost of \$5,715.15.

Under letter contract of Nov. 19, 1935, with John A. Gerrity additional plumbing is now being installed.

The serious damage by marine borers to the foundation piles of the pier was shown by examinations made by divers in 1934 and 1935. To ensure the safety of the structure it has become necessary to reconstruct the platform foundations and decks.

In October the Department secured the services of Fay, Spofford and Thorn-dike, consulting engineers, upon a project for such reconstruction. After the necessary preliminary examinations and borings were made, plans for the work needed were submitted to the Federal Emergency Administration of Public Works with a request for a grant to aid in financing the reconstruction estimated to cost approximately \$819,000. This work has been approved as Public Works Administration Project No. Mass. 1301.

Plans and specifications for the removal of the existing pile and concrete platforms at the pier and the building of a new concrete platform consisting of a concrete deck slab supported by steel girders and beams on caisson and pile foundations, have been approved by the Federal authorities, and proposals for the work have been invited by public advertisement by the Department.

A summary of freight and passengers using the pier in 1935 follows:

NUMBER OF TONS FREIGHT AND PASSENGERS HANDLED AT COMMONWEALTH  
PIER No. 5, DURING YEAR ENDING NOVEMBER 30, 1935

SS. Line	Num- ber of Ships	In Freight (Tons)			Out Freight (Tons)			Passengers		
		R.R.	Truck	Total	R.R.	Truck	Total	In	Out	Total
Amer.-Haw. S.S. Co. .	100	30,102	97,335	127,437	9,747	34,443	44,190	—	—	—
Luckenbach S.S. Co. .	62	6,038	77,157	83,195	5,954	23,661	29,615	—	—	—
Norton, Lilly & Co. .	22	4,071	7,834	11,905	—	—	—	—	—	—
Cunard White Star .	6	142	905	1,047	142	285	427	205	240	445
Can. Nat. SS. Co. .	82	170	894	1,064	—	71	71	3,250	3,263	6,513
Italian Line .	11	—	99	99	104	134	238	—	1,604	1,604
Byron SS. Co. .	6	—	—	—	—	—	—	—	584	584
French Line .	1	—	—	—	—	—	—	—	126	126
Holland Amer. Line .	1	—	—	—	—	—	—	—	159	159
Peabody & Lane .	1	—	—	—	80	—	80	—	—	—
John G. Hall & Co. .	1	—	—	—	26	—	26	—	—	—
Summaries .	293	40,523	184,224	224,747	16,053	58,594	74,647	3,455	5,976	9,431

DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

The seven sections of Storehouse No. 1 on E Street have been occupied during the year by the Wiggin Terminals, Inc.

The work of repairing the roof of the building and of installing skylights under contract of Nov. 7, 1934, with the Atlantic Roofing and Skylight Works was completed May 21, 1935, at a contract cost of \$13,849.09.

THE COMMONWEALTH FLATS AT EAST BOSTON  
*Aircraft Landing Field — Boston Airport*

The greater part of the area reclaimed by the Commonwealth at East Boston continues to be occupied by the city of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the city approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed

July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. The matter of the lease to the city of two additional parcels, one northeasterly of the areas leased in 1928 and 1930, the other southeasterly of the parcel leased in 1930, is still pending.

The use of these areas by the city is subject to certain rights of occupancy and use granted by lease of June 30, 1922, to the War Department, with an option of annual renewals to June 30, 1937, by a supplementary agreement of Dec. 27, 1926.

#### RECLAMATION OF FLATS

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and Nov. 30, 1935, approximately 2,972,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1935, about 104,500 cubic yards were dumped upon flats northerly of Governors Island. The Commonwealth has reclaimed approximately 150 acres of land at East Boston.

Under licenses granted for building bulkheads, dredging and filling, the city has reclaimed for the extension of the airport about 140 acres.

#### COMMONWEALTH PIER 1, EAST BOSTON

This pier has been used and occupied during the year by John G. Hall and Company, Inc., under the terms of the lease of Nov. 20, 1934.

Work under contract of Oct. 30, 1934, with W. H. Ellis and Son Company for repairs to pile and timber work at this pier was completed Feb. 12, 1935, at a contract cost of \$2,488.78.

The erection of sliding doors and the replacing of door sills with new timber, under contract of Nov. 13, 1934, with Ray Wason, was completed May 7, 1935, at a contract cost of \$2,575.02.

The building of a movable gangway on the east side of the pier, under contract of Nov. 20, 1934, with Waghorne-Brown Company, was completed Feb. 12, 1935, at a contract cost of \$1,844.

Amount expended during the year, \$9,669.37.

Income received from the pier during the year, \$8,141.90.

#### BOSTON HARBOR—REMOVAL OF ABANDONED HULKS OF WRECKS

On Aug. 13, 1934, a contract was made with the M and R Construction Company to remove the wreck of the tow boat "Esther Rendle" from tide water at property of the National Dock and Storage Warehouse Company and to dispose of the material above the high water line, at a contract price of the lump sum of \$723. This work was completed Sept. 28, 1935, at a contract cost of \$723.

#### CASTLE ISLAND BULKHEAD

Work under contract of Nov. 27, 1934, with John P. Cavanagh for removing about 980 linear feet of the southeasterly end of the bulkhead extending from the Reserved Channel toward Castle Island and for repairing designated portions of the remaining bulkhead and the bulkhead on the south side of the Reserved Channel, was completed Oct. 29, 1935, at a contract cost of \$3,335.

#### HOUGH'S NECK, QUINCY

The work by the city of Quincy in building at Hough's Neck a granite sea wall about 840 feet long with riprap protection along the base, and in constructing two stone jetties, has been in progress during the year under the agreement with the Department authorized by Chapter 322 of the Acts of 1934. About ninety-two per cent of the project has already been completed.

#### MYSTIC RIVER DREDGING

The work of dredging a channel in Mystic River to a depth of 20 feet at mean low water from a point about 1,000 feet below Malden Bridge to a point about 900 feet above, under contract of Sept. 11, 1934, with the J. S. Packard Dredging Company, was completed Dec. 28, 1934, at a contract cost of \$19,802.44.

On July 2, 1935, a contract was made with the J. S. Packard Dredging Com-



pany to dredge two areas in Mystic River in Boston and Everett, one above and the other below Malden Bridge, to a depth of 20 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 54.5 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Aug. 12, 1935, at a contract cost of \$40,355.60.

#### TOWN RIVER, QUINCY

A contract was made on Sept. 4, 1935, with the J. S. Packard Dredging Company for dredging a channel in Town River about 80 feet wide, 5,200 feet long, and 10 feet deep at mean low water at the following contract prices: for dredging and disposing of the dredged material 54 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Nov. 15, 1935, at a contract cost of \$55,104.40.

#### PLEASANT PARK CHANNEL, WINTHROP

A contract was made on Aug. 27, 1935, with the Bay State Dredging and Contracting Company to dredge certain specified shoal areas in Belle Isle Inlet and Pleasant Park Channel to a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of dredged material 56.8 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Sept. 27, 1935, at a contract cost of \$16,936.62.

#### WINTHROP HARBOR CHANNEL

A letter contract under date of Sept. 21, 1935, was made with the Bay State Dredging and Contracting Company to dredge to a depth of 9 feet at mean low water, six shoal areas in the channel leading to the Winthrop Yacht Club and the wharf of the Federal Government, at a contract price of the lump sum of \$2,100. The dredging was completed Sept. 26, 1935, at a contract cost of \$2,100.

#### MARINE BORERS

The investigation of the action of marine borers has been continued during the year by the New England Committee on Marine Piling Investigation, a body organized in 1934 for the purpose, and consisting of representatives of the New England railroads, the Commonwealth of Massachusetts through its Department of Public Works, and the State of New Hampshire through its Highway Department. This committee secured the services of Dr. William F. Clapp, Biologist, to direct these investigations.

Frank C. Shepherd, Consulting Engineer of the Boston and Maine Railroad, served as Chairman of this Committee until his death in August, 1935, when he was succeeded by A. H. Morrill, Assistant Chief Engineer of the Boston and Maine Railroad, the Maine Central Railroad and the Portland Terminal Company.

To determine the activity of the borers test boards have been maintained during the year at locations along the coast from New York to Eastport, Maine. To help this investigation the Department has continued to maintain four test boards in Boston Harbor in the locations established last year.

On Feb. 6 and Aug. 22, 1935, letter contracts were made with C. Ray Norris, diver, for making an examination of the foundation piles at Commonwealth Pier 5, at a price of \$29 per day, the contractor furnishing all labor, tools, appliances and equipment, except the diving scow and the laborers to operate the air pumps provided by the Commonwealth.

Under these contracts 5,121 piles were examined at a contract cost of \$1,305.

#### SURVEYS

During the year surveys have been made in connection with maintenance and operation of Commonwealth property, and of the wharf lines in Town River, Chelsea Creek and Belle Isle Inlet.

Hydrographic surveys have been carried on in the Charles River between the Railroad Bridge and the Charles River Dam, in Mystic River from Chelsea Bridge North to Wellington Bridge, in Pleasant Park Channel and Winthrop Harbor Channel, along a portion of the Atlantic Avenue waterfront and in Town River, Quincy.

## RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, Chapter 91, General Laws, an appropriation to \$100,000 was made during 1935, with the following condition:

“provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$22,500 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

In addition to these annual appropriations Chapter 464 of the Acts of 1935, approved Aug. 5, 1935, provided not less than \$250,000 to be expended at the discretion of the Commissioner for the improvement development and protection of rivers, harbors, tide waters and foreshores outside of Boston Harbor.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Allens Harbor, Harwich; Barlow River, Bourne; Connecticut River, Deerfield; Falmouth Inner Harbor, Falmouth; Great Pond, Falmouth; Herring River, Harwich; Katama Bay, Edgartown; Lake Anthony, Oak Bluffs; Lake Tashmoo, Tisbury; Little Bay, Fairhaven; Menamsha Creek, Chilmark and Gay Head; Nobscusset Breakwater, Dennis; Old Silver Beach, Falmouth; Pamet River, Truro; Parker River Shore, Yarmouth; Pleasant Bay, Chatham; Plum Island Basin, Newbury and Newburyport; Plymouth Harbor, Plymouth; Point Shirley sea wall, Winthrop; Point Connett-Angelica Point, dredging and breakwater, Mattapoisett; Rock Harbor, Orleans; Saugus River, Lynn; South Hyannis sea wall, Barnstable; West Falmouth Harbor, Falmouth; West Harwich Shore, Harwich.

Public hearings have been held and estimates of cost made, but no work has been undertaken to carry out improvements petitioned for in Barlow River, Bourne; Katama Bay, Edgartown; Lake Anthony, Oak Bluffs; Lake Tashmoo, Tisbury; Little Bay, Fairhaven; Pamet River, Truro; Pleasant Bay, Chatham; Plum Island Basin, Newbury and Newburyport; Point Shirley sea wall, Winthrop; Point Connett-Angelica Point, dredging and breakwater, Mattapoisett; Saugus River, Lynn.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1935, for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows:

### ALLENS HARBOR, HARWICH

Hearing was held on Jan. 31, 1935, on petitions of the Selectmen of Harwich and others, for dredging the entrance channel to Allens Harbor.

On June 18, 1935, a contract was made with Herbert T. Gerrish to include the dredging in the entrance to Allens Harbor of a channel about 40 feet wide on the bottom and 6 feet deep at mean low water, at the following contract prices: for dredging and disposing of the dredged material on land, flats, or at sea, 43 cents for each cubic yard measured in place; for removing and disposing of boulders \$20 for each cubic yard. Toward the cost of this dredging a contribution of \$1,000



has been made by the town of Harwich. No work has yet been done under this contract.

Amount expended during the year, \$15.75. Total expenditure to Dec. 1, 1935, \$51,378.37.

#### BARNSTABLE SHORE PROTECTION.

##### *South Hyannis*

Hearing was held June 12, 1935, upon petition of the Selectmen of Barnstable and others for a sea wall at Villa Sites, South Hyannis.

On Sept. 3, 1935, a contract was made with Harry L. Jones to build about 1,295 linear feet of concrete sea wall and three stone jetties, each 200 feet long, at the following contract prices: for furnishing material and constructing the concrete sea wall, including all excavation, back filling, removing old walls, crib work, steps, drains and cesspools and all incidental work, \$9.90 for each cubic yard of concrete measured in the completed work; for furnishing and placing stone riprap and granite chips in the jetties, \$3.00 for each ton of 2,000 pounds. No work has yet been done under this contract.

Toward the cost of this shore protection individuals and organizations interested have made contributions amounting to \$3,993.67 and an equal amount has been contributed by the county of Barnstable.

##### *West Beach*

Hearing was held Jan. 24, 1935, upon petition of the Selectmen of Barnstable for the building of stone jetties at West Beach at Squaw Island Road to protect the beach and road from erosion.

On Sept. 4, 1935, a contract was made with Frederick V. Lawrence to build four stone jetties at Squaw Island Road, Hyannisport, at a contract price for furnishing and placing granite stone riprap and chips in the jetties, of \$2.84 for each ton of 2,000 pounds. This work is now nearly completed. Toward the cost of this protection of the shore a contribution of \$1,350 has been made by the town of Barnstable and one of an equal amount by the county of Barnstable. Work under this contract is now in progress.

#### BASS RIVER, BEVERLY

A contract was made on Jan. 8, 1935, with the Bay State Dredging and Contracting Company to dredge a channel 90 feet wide on the bottom and 6 feet deep at mean low water in Bass River, northerly of Bridge Street, at the following contract prices: for dredging and disposing of dredged material 50 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed March 11, 1935, at a contract cost of \$3,499. Toward this cost a contribution of \$2,000 was made by the city of Beverly.

Amount expended during the year, \$3,850.75. Total expenditure to Dec. 1, 1935, \$84,953.51.

#### BASS RIVER, DENNIS AND YARMOUTH

During the year complaint was made to the Department concerning the condition of the west jetty at the entrance to Bass River. An inspection showed the top of the jetty badly eroded in certain sections and repairs needed.

Because of the difficulty of transporting materials to the site, it was decided to carry out the work on a basis of day labor. By this means a section of wall about 200 feet long has been rebuilt with concrete and a concrete footing placed under other sections for a length of 180 feet, at a cost of \$3,798.89.

Amount expended during the year, \$3,798.89. Total expenditure to Dec. 1, 1935, \$192,092.22.

#### CAPE COD CANAL LANDING PIER AT BOURNE

The present pier, authorized by Chapter 441 of the Acts of 1931, was completed during 1934. It is of solid fill construction about 100 feet long, providing a depth of 25 feet in the dock at mean low water and a light timber extension about 400 feet long available as a tie-up for vessels along the easterly side of the turning basin. Upon the pier a superstructure 36 feet wide and 200 feet long has been built of brick, steel and timber.

No work except minor repairs has been necessary during the year.

Amount expended during the year for operation, maintenance and improvement, \$4,343.90.

Income during the year, \$4,203.47.

Total expenditure to Dec. 1, 1935, for construction \$264,267.22; for operation and maintenance, \$11,025.18.

#### CONNECTICUT RIVER

The Department during the year made application to the Work Progress Administration of the Federal Government for approval of projects for the placing of riprap and the building of dikes at several points along Connecticut River to prevent erosion and damage by floods. These projects received tentative approval in the fall of 1935, but no work was done during the fiscal year.

#### DUXBURY HARBOR, DUXBURY

Hearings were held on Jan. 24 and 31, 1935, upon petitions of the Selectmen of Duxbury and others, for redredging the anchorage basin in Duxbury Harbor.

A contract was made on Apr. 30, 1935, with the Bay State Dredging and Contracting Company for dredging about 25,000 cubic yards of material over an area in Duxbury Bay to a depth of 6 feet at mean low water for a part of the area, and to a depth of 8 feet at mean low water over the remaining portion. The contract prices for this work were: for dredging and disposing of the dredged material 59.6 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This dredging was completed June 6, 1935, at a contract cost of \$15,268.33. Toward this cost a contribution of \$8,000 was made by the town of Duxbury.

Amount expended during the year, \$16,255.30. Total expenditure to Dec. 1, 1935, \$109,104.31.

#### ELLISVILLE HARBOR, PLYMOUTH

Under a letter contract of June 11, 1935, with Arthur K. Finney a caterpillar crane was furnished, with an operator, for excavating the entrance to Ellisville Harbor. The work was completed July 10, 1935, at a contract cost of \$398. Under this agreement the entrance channel was excavated to mean low water with a bottom width of about 25 feet.

Amount expended during the year, \$435.06. Total expenditure to Dec. 1, 1935, \$21,108.64.

#### FALMOUTH INNER HARBOR, FALMOUTH

Hearing was held on Jan. 24, 1935, on a petition of the Selectmen of Falmouth, and others, for the deepening of Falmouth Inner Harbor to not less than 10 feet at mean low water.

On May 21, 1935, a contract was made with Herbert T. Gerrish to include the dredging of an anchorage basin to a depth of 10 feet at mean low water in this harbor, at the following contract prices: for dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 56 cents for each cubic yard measured in place; for removing and disposing of boulders, \$20 for each cubic yard. No work has begun as yet under this contract. A contribution of \$5,000 toward the cost of the dredging has been made by the town of Falmouth.

A contract with William R. Farrell and Son, Inc., was made on Aug. 14, 1935, to include repairs to the west jetty at Falmouth Inner Harbor at the following contract prices: for each ton of heavy stone riprap furnished in place in the completed work \$3.37; for each ton of fine stone chips furnished in place in the completed work \$4.27; for each cubic yard of material excavated and back filled in the completed work \$1.00. These repairs were completed Oct. 22, 1935, at a contract cost of \$3,988.85.

Total expenditure to Dec. 1, 1935, \$154,279.63.

#### GREAT POND, FALMOUTH

Hearing was held on Jan. 24, 1935, on the petition of the Selectmen of Falmouth, and others, for dredging the entrance channel to Great Pond and building a jetty at its outlet into Nantucket Sound.



A contract was made on May 21, 1935, with Frederick V. Lawrence to excavate a channel about 1,400 feet long and 30 feet wide on the bottom, to a depth of 3 feet at mean low water, and to build a stone jetty about 340 feet long at the entrance of Great Pond to Nantucket Sound. The contract prices for this work were: for excavating and disposing of the dredged material 39 cents for each cubic yard; for removing and disposing of all boulders in excess of one cubic yard in volume, \$1.00 for each cubic yard; for furnishing and placing granite stone riprap and granite chips in the jetty, \$2.83 for each ton.

This work was completed Sept. 20, 1935, at a contract cost of \$9,116.71. Toward this cost a contribution of \$5,000 was made by the town of Falmouth.

Amount expended during the year, \$10,508.89. Total expenditure to Dec. 1, 1935, \$10,508.89.

#### HARWICH SHORE PROTECTION

Hearing was held on Jan. 31, 1935, on petition of the Selectmen for the building of stone jetties at West Harwich Beach.

A contract with Frederick V. Lawrence was made on Aug. 12, 1935, to build two stone jetties at Harwichport and to rebuild and extend a stone jetty at South Harwich, at a contract price of \$2.68 for each ton of 2,000 pounds of granite stone riprap and chips furnished and placed in the jetties. This work was completed Nov. 23, 1935, at a contract cost of \$3,728.88. Toward this cost a contribution of \$1,000 was made by the town of Harwich and one of equal amount by the county of Barnstable.

Amount expended during the year, \$3,388.37. Total expenditure to Dec. 1, 1935, \$15,947.79.

#### HERRING RIVER, HARWICH

Hearing was held on Jan. 31, 1935, on the petition of the Selectmen of Harwich for dredging at the mouth of Herring River.

On June 18, 1935, a contract was made with Herbert T. Gerrish to include the dredging in the entrance to Herring River of a channel about 60 feet wide on the bottom and 6 feet deep at mean low water, at the following contract prices: for dredging and disposing of the dredged material on land, flats or at sea, 43 cents for each cubic yard measured in place; for removing and disposing of boulders \$20 for each cubic yard. Toward the cost of this dredging a contribution of \$1,000 has been made by the town of Harwich. No work has begun under this contract.

During the year a concrete wall 402 feet long was built upon the top of the stone work of the westerly jetty at the entrance to the river. The work was carried out on a basis of day labor at a cost of \$1,936.24.

Amount expended during the year \$1,936.24. Total expenditure to Dec. 1, 1935, \$136,669.22.

#### HYANNISPORT BREAKWATER, BARNSTABLE

Hearing was held on Jan. 24, 1935, on the petition of the Selectmen of Barnstable for the building of a stone breakwater to close the existing gap between the end of the breakwater built by the Federal Government and the end of the jetty built by the Commonwealth at Hyannisport.

On June 11, 1935, a contract was made with the Bay State Dredging and Contracting Company to close the gap between the two structures by extending the stone breakwater built by the Commonwealth to the breakwater built by the Federal Government. The contract price for this work was: for each ton of stone riprap furnished in place in the completed work \$2.94. This project was completed Sept. 6, 1935, at a contract cost of \$35,280. Toward this cost a contribution of \$14,400 was made by the town and one amounting to \$3,600 by individuals interested in the improvement.

Under a letter contract of Sept. 17, 1935, with the Bay State Dredging and Contracting Company, additional stone was placed in the old breakwater and in the extension at a contract cost of \$5,033.28.

Amount expended during the year, \$36,447.57. Total expenditure to Dec. 1, 1935, \$101,465.33.

## MANCHESTER HARBOR, MANCHESTER

A contract was made on Oct. 4, 1935, with the Bay State Dredging and Contracting Company to dredge to a depth of 6 feet at mean low water, an anchorage basin in Manchester Harbor at the following contract prices: for dredging and disposing of the dredged material 49.8 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work, not yet completed, is to be paid for from funds available under the provisions of Chapter 464 of the Acts of 1935.

Amount expended during the year, \$17,742.87. Total expenditure to Dec. 1, 1935, \$207,581.75.

## MANOMET POINT, PLYMOUTH

Work under contract of Aug. 21, 1934, with M. J. Crowley, for shore protection at Manomet was completed Mar. 9, 1935, at a contract cost of \$12,468.49. Toward this cost a contribution of \$5,500 was made by the town of Plymouth and one of \$1,750 by the County of Plymouth.

Amount expended during the year, \$7,277.74. Total expenditure to Dec. 1, 1935, \$13,920.20.

## MENAMSHA CREEK, CHILMARK AND GAY HEAD

Hearing was held on Jan. 24, 1935, on the petition of the Selectmen of Chilmark and Gay Head for the deepening of Menamsha Creek from its entrance in Vineyard Sound to Menamsha Pond and for the placing of riprap.

On Oct. 4, 1935, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of 6 feet at mean low water a channel about 5,200 feet long from Vineyard Sound to Menamsha Pond to a width of 60 feet on the bottom, at the following contract prices: for dredging and disposing of excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 54 cents per cubic yard measured in place; for removing and disposing of boulders \$20 per cubic yard. The cost of this work, now nearly completed, is to be paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

Work under this contract has been extended to include the dredging of a channel from Menamsha Pond to Nashaquitsa Pond, to a depth of 6 feet at mean low water and a width on the bottom varying from 60 feet to 100 feet.

Amount expended during the year, \$23,751.28. Total expenditure to Dec. 1, 1935, \$153,994.71.

## NEW BEDFORD STATE PIER

During the year a portion of this pier has been occupied by the Lamport Manufacturing Supply Company, Inc., under the terms of the lease of Apr. 27, 1933, expiring Mar. 31, 1936, at a rental of \$5,500 per year.

On Sept. 9, 1935, a letter contract was made with Thomas O'Connor and Company, Inc., for alterations and repairs to the present platforms and the construction of a wooden canopy. This work was completed Nov. 20, 1935, at a contract cost of \$9,414.08.

Under a letter contract of Nov. 6, 1935, with Frank C. Taylor, Inc., the work of furnishing and driving creosoted yellow pine piles and furnishing and placing creosoted yellow pine cap log and untreated oak facing at the pier, is now in progress.

Repairs to the foundations of the timber sheds on the pier, in accordance with letter contract of Nov. 26, 1935, with Thomas O'Connor and Company, Inc., were completed Nov. 29, 1935, at a contract cost of \$1,046.98.

Three steamship lines are now operating weekly sailings on regular schedules from this pier. The commodities chiefly handled are cotton, flour and rice from the Gulf ports.

The Southern Pacific Steamship Lines, the Morgan Line, the Pan-Atlantic Line and the Mooremack Gulf Lines, Inc., use the pier in regular service, while occasional shipments of lumber from the Pacific coast ports are brought in by other lines.



Amount expended for operation, maintenance and improvement during the year, \$13,370.01.

Income during the year, \$23,921.89.

Total expenditure for operation, maintenance and improvement, to Dec. 1, 1935, \$93,913.02.

#### NOBSCUSSET HARBOR, DENNIS

On Jan. 15, 1935, a contract was made with Thomas Whalen and Sons, Inc., for placing heavy stone riprap along the northeasterly side of the timber bulkhead at Nobscusset Harbor, at a contract price of \$2.23 for each ton of stone riprap in place in the completed work. The improvement was completed May 23, 1935, at a contract cost of \$4,171.89. Toward this cost a contribution of \$1,200 each was made by the town of Dennis and the County of Barnstable.

Amount expended during the year, \$4,785.50. Total expenditure to Dec. 1, 1935, \$48,564.29.

#### OLD SILVER BEACH, FALMOUTH

Hearing was held on Jan. 24, 1935, on the petition of the Park Commissioners of Falmouth for the building of a retaining wall at Old Silver Beach to keep Herring River from changing its course and to protect the beach where the town has built a bathing pavilion.

On May 21, 1935, a contract was made with Frederick V. Lawrence for the construction of a stone jetty about 350 feet long, a return wall about 90 feet long, for excavating a trench and riprapping the slope along the southerly side of the jetty about 350 feet in length, on the northerly side of the entrance to Herring River at Old Silver Beach. The contract price for the work was: for furnishing and placing stone riprap and granite chips in the jetty and return wall and excavating, including all incidental work, \$2.39 for each ton of 2,000 pounds. This project was completed July 23, 1935, at a contract cost of \$2,418.88. Toward the cost a contribution of \$1,000 each was made by the town of Falmouth and the county of Barnstable.

Amount expended during the year, \$3,069.30. Total expenditure to Dec. 1, 1935, \$3,069.30.

#### ONSET BAY, WAREHAM

Hearing was held on Jan. 24, 1935, on the petition of the Chairman of the Selectmen of Wareham for dredging a channel and basin in Onset Bay in extension of dredging to be carried out by the Federal Government.

A contract was made with Herbert T. Gerrish on Oct. 4, 1935, for dredging to a depth of 15 feet at mean low water a channel and basin in Onset Bay, the channel to a width of 100 feet on the bottom except at the turn where a width of 125 feet is to be provided, at the following contract prices: for removing and disposing of boulders \$20 per cubic yard; for dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barrier, for each cubic yard measured in place, 51.5 cents. No work has yet begun under this contract. The cost of this dredging is to be paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

Amount expended during the year, \$313.35. Total expenditure to Dec. 1, 1935, \$15,866.55.

#### COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$3,000 was made this year by the Legislature for expenses of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924. The usual care of the grounds and pier and necessary minor repairs have been carried on during the year.

The budget for 1935 provided also the sum of \$45,000 for the reconstruction of the State Pier.

On May 27, 1935, a letter contract was made with the Bay State Dredging and Contracting Company to dredge about 5,000 cubic yards of material from areas



near the pier, under the terms and conditions of its contract of Apr. 30, 1935, for dredging Duxbury Harbor. This work was completed June 4, 1935, at a contract cost of \$3,513.08.

A contract was made on July 16, 1935, with the Lee Construction Company, Inc., for removing the existing pile wharf at the State Pier, for constructing upon the site of new wharf and bulkhead of creosoted piles and timber, and for dredging an area adjacent to the bulkhead. The contract prices were: for dredging 60 cents per cubic yard, measured in place; for removal and disposal of boulders \$5.00 per cubic yard; for building wharf and bulkhead, unit prices for material furnished and placed. This work is now in progress.

Amount expended during the year, \$35,147.04. Total expenditure to Dec. 1, 1935, \$86,719.26.

#### PLYMOUTH HARBOR, PLYMOUTH

Hearing was held Jan. 24, 1935, on petition of Morton Collingwood, and others, for enlarging and deepening the present anchorage basin in Plymouth Harbor.

On Oct. 4, 1935, a contract was made with the Bay State Dredging and Contracting Company for dredging two areas in the basin near the Plymouth Yacht Club, one to a depth of 8 feet and the other to a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 54.5 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work, now nearly completed, is to be paid for from funds available under the provisions of Chapter 464 of the Acts of 1935.

Amount expended during the year, \$28,195.72. Total expenditure to Dec. 1, 1935, \$352,760.74.

#### PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for this area and the Province Lands. An employee has been kept at work during the summer to maintain the park in proper condition.

#### ROCK HARBOR, ORLEANS

Hearing was held Jan. 31, 1935, on petition of the Selectmen of Orleans, and others, for dredging the channel to facilitate access to the platform built by the Department in 1934 in Rock Harbor Creek.

On May 21, 1935, a contract was made with Herbert T. Gerrish for dredging by the hydraulic process about 17,000 cubic yards of material in the channel and basin in Rock Harbor, the channel to a width of 40 feet on the bottom and the basin to width of 90 feet on the bottom, to a depth of 2 feet below mean low water. The contract prices for this work were: for dredging channel and basin and disposing of excavated material on marsh or flats adjacent to the work, including the construction of necessary dikes, sluices or other barriers, 46 cents for each cubic yard measured in place; for removing and disposing of boulders \$10 per cubic yard. This work was completed Sept. 28, 1935, at a contract cost of \$7,360. Toward this cost a contribution of \$4,000 was made by the town of Orleans.

Amount expended during the year, \$8,962.53. Total expenditure to Dec. 1, 1935, \$37,753.77.

#### SALISBURY DIKE

By Chapter 399 of the Acts of 1935, the Department of Public Works is authorized and directed to construct a dike and incidental structures in tide water within the territory of the Salisbury Reclamation District, in connection with the control works in process of construction by the District. For building the dike and incidental structures an expenditure of not more than \$13,000 is authorized, but no work is to be begun until the District has acquired the land upon which the structures are to be built, has provided near the site of the work materials to be used as fill and marsh sod to be used as surface protection for the dike and structures, and has assumed liability for all damages. The act is to take effect



upon its acceptance, before Sept. 1, 1935, by the proprietors of the Salisbury Reclamation District.

On Aug. 31, 1935, said District voted to accept the provisions of the Act and executed a contract of indemnity, assuming the liability required by the statute.

As the necessary taking of land has not been made by the District, no work has yet been done.

#### SCITUATE HARBOR

On Oct. 4, 1935, a contract was made with the Bay State Dredging and Contracting Company to dredge an area in Scituate Harbor to a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 56.3 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work, now nearing completion, is to be paid for from funds available under the provisions of Chapter 464 of the Acts of 1935.

Amount expended during the year, \$11,491.67. Total expenditure to Dec. 1, 1935, \$217,503.61.

#### SCITUATE SEA WALLS

##### *Shore Acres*

The work under letter contract of May 8, 1934, with Thomas H. Hannaford for building the additional section of sea wall to complete the structure in front of Oceanside Drive from a point northerly of Fourth Avenue to Eleventh Avenue, was completed Aug. 3, 1935, at a contract cost of \$3,000. Toward the cost of the extension a contribution of \$1,500 was made by the town of Scituate.

#### SENKONTACKET POND, OAK BLUFFS

A letter contract with S. M. Fisher was made on Nov. 27, 1934, to remove 48 piles obstructing navigation in the entrance channel. The work was completed Jan. 12, 1935, at a contract cost of \$225.

#### SINGING BEACH, MANCHESTER

The work of grading about 4,000 square yards of the slope at Singing Beach, and of placing coarse gravel or crushed stone and stone riprap paving, under contract of Aug. 28, 1934, with Thomas A. Mackey, was completed Mar. 23, 1935, at a contract cost of \$7,392.68. Toward this cost a contribution of \$7,562.50 was made by the town of Manchester.

The unexpectedly low prices at which the contract for this work was made resulted in an unexpended balance from the sum allotted for the purpose. The town of Manchester asked that this balance be spent for extending the work at Singing Beach.

On Feb. 5, 1935, a contract was made with Thomas Whalen and Sons, Inc., for paving with stone riprap about 400 feet of bank at this beach, involving the grading of about 900 square yards of bank, the furnishing and placing of 150 cubic yards of screened gravel or crushed stone, and the furnishing and placing of about 770 tons of stone riprap. The contract prices for this work were: for each ton of riprap furnished and placed in the completed work \$2.50; for each cubic yard of screened gravel or crushed stone furnished and placed in the completed work \$1.65; for each square yard of bank graded, including the furnishing of material and all incidental work, 20 cents. This work was completed June 7, 1935, at a contract cost of \$2,938.32.

Amount expended during the year, \$8,714.32. Total expenditure to Dec. 1, 1935, \$12,732.92.

#### SMITH'S COVE, GLOUCESTER

Hearing was held Jan. 31, 1935, on the petition of Harold B. Webber for dredging in Smith's Cove.

On Oct. 4, 1935, a contract was made with the J. S. Packard Dredging Company for dredging to a depth of 14 feet at mean low water an area in Smith's Cove, at the following contract prices: for dredging and disposing of the dredged material 54 cents per cubic yard, scow measurement; for removing and disposing of

boulders \$25 per cubic yard. The cost of the work, now nearing completion, is to be paid from funds provided under Chapter 464 of the Acts of 1935.

Amount expended during the year, \$16,318.15. Total expenditure to Dec. 1, 1935, \$29,784.31.

#### WAQUOIT BAY, FALMOUTH AND MASHPEE

On Aug. 14, 1935, a contract was made with William R. Farrell and Son, Inc., to include repairs to the stone jetty at Waquoit Bay at the following contract prices; for each ton of heavy stone riprap furnished in place in the completed work \$3.37; for each ton of stone chips furnished in place in the completed work \$3.57. These repairs were completed Oct. 22, 1935, at a contract cost of \$6,238.28.

Amount expended during the year, \$9,288.68. Total expenditure to Dec. 1, 1935, \$107,727.59.

#### WEST CHOP, TISBURY

Work under contract of Aug. 28, 1934, with Merritt-Chapman and Scott Corporation for repairing five stone jetties, extending two stone jetties and building a riprap apron in front of the concrete wall at West Chop, was completed Jan. 12, 1935, at a contract cost of \$7,559.49. Last year a contribution of \$2,500 was made by the town toward the cost of this work and one of \$1,500 by property owners.

Amount expended during the year, \$7,929.46. Total expenditure to Dec. 1, 1935, \$13,045.53.

#### WEST FALMOUTH HARBOR, FALMOUTH

Hearing was held Jan. 24, 1935, on petition of the Harbor Master of Falmouth, and others, for redredging the entrance channel and increasing the anchorage basin in West Falmouth Harbor.

On May 21, 1935, a contract with Herbert T. Gerrish was made to include the dredging of about 30,000 cubic yards of material from a channel of varying width to a depth of 6 feet at mean low water in West Falmouth Harbor at the following contract prices: for dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 56 cents for each cubic yard measured in place; for removing and disposing of boulders, \$20 for each cubic yard. Work under this contract was begun in October.

Under a letter contract with John A. Davis the work of removing floating timber from this harbor was completed June 19, 1935, at a contract cost of \$75.

Amount expended during the year, \$5,586.10. Total expenditure to Dec. 1, 1935, \$69,107.05.

#### WINTHROP SHORE PROTECTION

Work under contract of Aug. 1, 1934, with William R. Farrell for an extension to the breakwater off Winthrop Shore Drive was completed Jan. 6, 1935, at a contract cost of \$67,258.43.

This extension was authorized by Chapter 286 of the Acts of 1934 which allowed the expenditure by the Commonwealth of a sum not exceeding \$80,000 to be used with a contribution of \$16,000 to be made by the town. The favorable contract price at which this work was carried out left an unexpended balance for further extension.

On July 9, 1935, a contract was made with William R. Farrell, to build an extension to the northerly end of the existing stone breakwater in Broad Sound off Winthrop Shore Drive, at a contract price of \$2.17 for each ton of stone riprap furnished and placed in the completed work. This project was completed Sept. 3, 1935, at a contract cost of \$23,961.14.

Amount expended during the year, \$43,854.04. Total expenditure to Dec. 1, 1935, \$341,698.89.

#### YARMOUTH SHORE PROTECTION

Hearing was held Jan. 24, 1935, upon petitions of the Selectmen for the building of stone jetties to protect the Yarmouth Shore.

On Sept. 3, 1935, a contract was made with Frederick V. Lawrence for building



eight stone jetties, each about 150 feet long, at South Yarmouth Beach, at a contract price of \$2.73 for each ton of 2,000 pounds of granite stone riprap and chips furnished and placed in the jetties. This work was completed Nov. 30, 1935, at a contract cost of \$9,977.48. Toward this cost a contribution of \$2,500 each was made by the town of Yarmouth and the county of Barnstable.

Amount expended during the year, \$8,480.86. Total expenditure to Dec. 1, 1935, \$8,480.86.

## Miscellaneous

### GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by Chapter 318 of the Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by Chapter 379, Acts of 1904, now section 2, Chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Sturbridge; Asneconick or Comet Pond, Hubbardston; Bartlett Pond, Plymouth; Blackmore's Pond, Wareham; Cedar Dell Pond, South Dartmouth; Clear Lake, Barnstable; Great Pond, Falmouth; Great Pond, Otis; Horn Pond, Woburn; Lake Tashmoo, Tisbury; Lake Winthrop, Holliston; Lead Mine Pond, Sturbridge; Manchaug Lake, Douglas; North Pond, Worcester; Shivericks Pond, Falmouth; Snipatuit Pond, Rochester.

Surveys were made this year of the following great ponds:

#### *Abners Pond, Plymouth*

Area at time of survey . . . . .	10.259 Acres
Area of natural pond . . . . .	10.259 Acres
Maximum depth . . . . .	27.6 feet

#### *Stevens Pond, Boxford*

Area at time of survey . . . . .	12.61 Acres
Area of natural pond . . . . .	12.61 Acres
Maximum depth . . . . .	15 feet

#### *Pleasant Pond or Idlewild Lake, Hamilton and Wenham*

Area at time of survey . . . . .	30.38 Acres
Natural pond area not determined as no soundings were taken.	
Maximum depth not determined.	

Pond area divided between towns as follows:

1.53 Acres in Hamilton
28.85 Acres in Wenham

### ACCESS TO GREAT PONDS

On Dec. 12, 1934, hearing was held by the Joint Board established by Chapter 453 of the Acts of 1923, upon a petition of ten citizens of the Commonwealth asking for the establishment of a right of way for public access to Asneconick or Comet Pond in Hubbardston. As evidence was presented that the pond is a tributary of Ware River, made by the provisions of Chapter 375 of the Acts of 1926 a part of the water supply of the Metropolitan District, and that the Metropolitan District Water Supply Commission is already acquiring land upon the shore of the pond, the petition was dismissed for lack of jurisdiction.

### PROVINCE LANDS

The territory belonging to the Commonwealth, known as the Province Lands at Provincetown, comprising about 3,810 acres lying northerly and westerly of a line described in Chapter 470 of the Acts of 1893, was placed by the terms of the statute under the general care and supervision of the Board of Harbor and Land Commissioners. The work of reclamation has been carried on within this area

since 1894 by direction of the Harbor and Land Commissioners and its successors in authority.

Under present conditions the most effective method of checking the movement of the sand appears to be the preliminary covering of the dunes with brush to afford protection for the natural reseeding of beach grass, and the following of this work later by the transplanting of shrubs and trees.

During the year brush and trees have been cleared from an area of about 16 acres previously swept by fire. The brush has been used for covering about 20,000 square feet of sand dunes.

About 600 bayberry shrubs have been transplanted as protection for marginal planting and wind break, and 88,000 small seedling pitch pine trees have been transferred from forest areas to sand dunes.

The work of destroying gypsy moths and brown tail moths has been continued during the year, a new nursery and propagating bed has been established and about two miles of combination fire stops and truck trails provided to ponds and water holes, with sand piles along the way, for use in cases of brush fires.

The reclamation and general care of these lands is carried on under the direction of a superintendent.

The sum of \$201.25 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying areas upon these lands.

Amount expended during the year, \$4,988.63. Total expenditure to Dec. 1, 1935, \$176,276.81.

#### STATE BOUNDARY LINES

Section 4 of Chapter 1 of the General Laws provides:

"The Department of Public Works, in this chapter called the Department, shall in the year nineteen hundred and thirty-five and in every fifth year thereafter inspect all monuments or other marks defining the location of the boundary lines of the Commonwealth, and if any of them have been injured, displaced, removed or lost the department shall, in co-operation with persons duly authorized by the adjoining State, restore them or replace them with suitable stone monuments, and in the same manner set suitable stone monuments at points not properly marked where the State boundary is intersected by the boundary of any counties, cities or towns in the Commonwealth or by a highway or railroad. If officers of adjoining States are required to make such inspection at other times, the department may co-operate with them."

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of New York was made by representatives of the Department, beginning July 8 and ending Sept. 7, 1935, as the officials of New York explained that no funds were available for co-operative examination during the year. All bounds were visited and found, with one exception, in good condition. Repairs were made to the bound in question and brush was cut from a considerable section of the boundary line. Additional cutting will be carried out during the coming year.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of New Hampshire was made conjointly with W. S. Morrill, representing the State of New Hampshire. This work was done in July, 1935, and all bounds found in good condition and properly set.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of Vermont was made conjointly with Lee Bates, representing the State of Vermont. The work was begun Aug. 27, 1935, and completed Aug. 31, 1935. All bounds were visited and found in good condition with two exceptions. Repairs have been made to these two bounds.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of Rhode Island and Providence Plantations was made conjointly with members of the Rhode Island Boundary Line Commission appointed by Governor Green on Oct. 28, 1935, as follows: Edward H. Rathburn, Chairman; C. Robert Lynch, and John W. Heuberger. On a portion of the



boundary line the State of Rhode Island was represented by Willis Tobie, designated by the Rhode Island Boundary Line Commission to represent the State of Rhode Island. The work was begun Nov. 4, 1935, and completed Nov. 27, 1935. All bounds were visited and found, with a few exceptions, in good condition. The damaged bounds have been properly reset.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of Connecticut was made conjointly with T. F. Newhaus, representing the State of Connecticut. The work was begun Sept. 23, 1935, and completed Oct. 8, 1935. All bounds were visited and found in good condition and properly set.

In these perambulations the Department was represented by the following engineers: William C. Hawley, Charley J. O'Donnell and Francis P. Mahaney.

#### TOWN BOUNDARY LINES

During the year the Department set certain witness monuments and marked the boundary line between the town of Oak Bluffs and Tisbury, as required by the provisions of Chapter 145 of the Acts of 1935. Other work performed this year comprised the resetting of bound stones which had been damaged or lost.

#### CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, Chapter 564, Acts of 1912, and Chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$5,000.

#### RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, Chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

All funds provided for this purpose during the year were expended in maintaining a survey party on Nantucket Island to check triangulation work and to run base lines.

#### LICENSES AND PERMITS

During the year 97 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River, and 112 permits for miscellaneous purposes. The Department also approved 96 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR  
1859-1935, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1934</i>	<i>1935</i>	<i>Total</i>
Boston Harbor:	\$1,762,443 60 <sup>1</sup>		
Maintenance of Property		—	
Dredging and Filling		—	
Special Appropriations		\$12,999 86	\$1,775,443 46
Commonwealth Flats:			
East Boston	3,093,326 83 <sup>2</sup>	—	3,093,326 83
South Boston	4,892,123 69	—	4,892,123 69
Castle Island:	745,264 94		
Dredging and Filling		4,469 80	749,734 74
Commonwealth Pier No. 5: South Boston:			
Construction	4,014,790 45	—	4,014,790 45
Maintenance	781,951 70	102,014 68	883,966 38
Dredging	61,323 75	—	61,323 75
Operation and Supervision	1,836,848 98	106,000 03	1,942,849 01
Commonwealth Pier No. 1: East Boston:			
Construction	1,199,703 23	—	1,199,703 23
Operation and Supervision	127,987 12	—	127,987 12
Maintenance	27,368 09	9,669 27	37,037 36
Commonwealth Pier No. 6, South Boston:			
Construction	1,092,149 06	—	1,092,149 06
Maintenance	51,937 90	—	51,937 90
Dry Dock	3,169,651 15 <sup>3</sup>	—	3,169,651 15
Hayward Creek	385,979 61 <sup>4</sup>	—	385,979 61
Mystic River	467,425 93 <sup>5</sup>	46,600 82	541,026 75 <sup>7</sup>
Malden River	33,002 84 <sup>6</sup>	—	33,002 84
Chelsea Creek	61,094 35	—	61,094 35
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property (in addition to maintenance items listed above)	395,452 92	57,636 08	453,089 00
	<u>\$24,253,039 24</u>	<u>\$339,390 54</u>	<u>\$24,592,429 78</u>

<sup>1</sup> Expenditure includes contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921  
Bethlehem Shipbuilding Corporation in 1930 . . . . . \$ 4,000 00  
10,000 00

<sup>2</sup> Expenditure includes contribution by the City of Boston in 1926, authorized by Chapter 385, Acts of 1926 . . . . . 10,000 00

<sup>3</sup> Additional amount paid by the State Treasurer from Development of the Port of Boston Loan Sinking Fund in settlement of claims . . . . . 17,877 73

<sup>4</sup> Expenditure includes contributions by Massachusetts Oil Refining Company and Bethlehem Shipbuilding Corporation  
Additional amount paid by State Treasurer for land taking . . . . . 38,600 00  
3,725 27

<sup>5</sup> Expenditure in cludes contribution by Merrimac Chemical Company in 1920 . . . . . 15,000 00  
in 1922 . . . . . 4,182 50  
Contribution by Beacon Oil Company in 1920 . . . . . 50,000 00

<sup>6</sup> Commonwealth's funds expended by United States Government . . . . . 31,000 00  
Contribution by Standard Oil Company of New York in 1922, expended by the Commonwealth . . . . . 600 00

<sup>7</sup> Expenditure includes transfer from Small Harbors and Channels Table . . . . . 5,927 70



EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1935, INCLUSIVE

Contributions Total Expenditures Total

<i>Locality and Character of Work</i>	1935	Contributions	1935	Expenditures
Cottage Park Channel, Winthrop—Dredging . . .	—	\$6,250 00	—	\$37,967 29
Dorchester, Easterly Shore, Dredging and Survey . . .	—	1,000 00	—	210,767 61
Harbor View—Dredging . . .	—	—	—	146 00
Hingham Harbor—Dredging . . .	—	6,500 00	—	41,595 12
Houghs Neck, Quincy—Dredging, Survey and Seawall . . .	—	7,500 00	\$8,480 54	55,165 69
Island End River, Everett—Survey . . .	—	—	—	264 10
Jeffries Point Channel—Dredging . . .	—	—	—	4,563 93
Mystic River (near Lawrence and Wiggin Wharf) Dredging <sup>1</sup> . . .	—	—	—	—
Neponset River—Dredging . . .	—	10,000 00	—	109,401 63
Old Harbor Cove—Dredging . . .	—	—	—	10,520 48
Orient Heights Channel—Dredging . . .	—	—	—	45,412 38
Pemberton Point, Hull—Breakwater . . .	—	60,000 00	—	91,195 01
Pleasant Park Yacht Club Channel—Dredging . . .	—	3,000 00	18,421 53	48,735 39
Point Allerton, Hull—Seawall . . .	—	50,000 00	—	75,127 05
Point Shirley, Winthrop . . .	—	—	—	3,713 37
Quincy Bay—Dredging . . .	—	10,150 00	—	84,162 47
Shirley Gut, Boston and Winthrop—Dredging . . .	—	—	—	2,432 34
South Boston, Southerly Shore—Dredging . . .	—	—	—	129,542 08
Stony Beach, Hull—Seawall and riprap . . .	—	8,000 00	—	28,658 05
Town River, Quincy—Survey and Dredging . . .	—	16,050 00	50,615 44	108,278 69
Weir River, Hull—Dredging . . .	—	45,000 00	—	205,336 48
Wessagussett Channel—Dredging . . .	—	—	—	815 20
Weymouth Fore River—Dredging . . .	—	8,250 00	21 93	70,106 62
Winthrop Harbor Channels—Dredging . . .	—	20,567 00	2,132 90	91,169 11
—	—	\$252,267 00	\$79,672 34	\$1,455,076 09

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK  
FROM DECEMBER 1, 1934, TO NOVEMBER 30, 1935

<i>Location and Character of Work</i>	Contributions	Expenditures
Allen's Harbor, Harwich, survey . . .	\$2,000 00	\$15 75
Barlow's River, Pocasset Harbor, Bourne, survey . . .	—	207 79
Bass River, Beverly, dredging . . .	2,000 00	3,850 75
Bass River, Dennis and Yarmouth, jetty repairs . . .	—	3,798 89

<sup>1</sup> See Mystic River under Boston Harbor table.

*Location and Character of Work*

Contributions      Expenditures

Brant Rock, Marshfield, seawalls and riprap . . . . .	—	78 75
Cape Cod Canal Pier, Bourne, construction . . . . .	—	1,842 50
Cape Cod Canal Pier, Bourne, operation and maintenance . . . . .	—	4,343 90
Cape Poge, Edgartown, dredging . . . . .	—	4,817 70
Chatham, East of Chatham Light, survey . . . . .	—	40 00
Connecticut River, Hadley, survey . . . . .	—	41 59
Connecticut River, Northfield, survey . . . . .	—	45 15
Dennis:		
Nobscusset Harbor, stone riprap . . . . .	2,400 00	4,785 50
West Dennis, survey . . . . .	—	84 30
Duxbury Harbor, Duxbury, dredging . . . . .	8,000 00	16,255 30
Ellisville Harbor, Plymouth, dredging . . . . .	—	435 06
Falmouth Heights, Falmouth, seawall repairs, riprap and survey . . . . .	—	448 17
Falmouth, Great Pond, channel excavation, jetty . . . . .	5,000 00	10,508 89
Falmouth, Old Silver Beach (Herring River), stone jetty . . . . .	2,000 00	3,069 30
Falmouth, West Falmouth Harbor, dredging . . . . .	12,500 00	5,586 10
Great Ponds, survey . . . . .	—	863 21
Herring River, Harwich, jetty repairs . . . . .	1,000 00	1,936 24
Hyannis Harbor, Barnstable, riprap . . . . .	—	5,033 28
Hyannisport, Barnstable, breakwater . . . . .	18,000 00	36,447 57
Hyannisport, Hall Creek, Barnstable, survey . . . . .	—	112 10
Hyannisport, Squaw Island Road, Barnstable, survey . . . . .	2,700 00	72 12
Harwich Shore, Chatham Line to Dennis, survey . . . . .	—	2,040 01
Harwichport Beach, shore protection . . . . .	2,000 00	2,487 89
Lagoon Pond, Tisbury, and Oak Bluffs, survey . . . . .	—	220 09
Lake Anthony, Oak Bluffs, survey . . . . .	—	172 87
Lynn Harbor—Saugus River, Lynn and Saugus, survey . . . . .	—	54 75
Manchester Harbor, Manchester, dredging . . . . .	—	17,742 87
Manomet Point, Plymouth, stone riprap and fill . . . . .	—	7,277 74
Marine Borer Investigations . . . . .	—	755 43
Menamsha Inlet, Chilmark and Gay Head, dredging . . . . .	—	23,751 28
Nantucket Hither Creek, survey . . . . .	—	220 45
New Bedford State Pier, operation and maintenance . . . . .	—	9,028 98
New Bedford State Pier, alterations and repairs . . . . .	—	4,341 03
Nobscusset Harbor—see Dennis		
North Dennis—see Dennis		
Oak Bluffs, riprap . . . . .	—	78 00
Onset Bay, Wareham, dredging . . . . .	—	313 55
Pamet River, Truro, survey . . . . .	—	418 89
Plymouth Harbor, dredging . . . . .	—	28,195 72
Plymouth—see Manomet Point, Plymouth		
Plymouth Property, dredging and maintenance of . . . . .	—	35,147 04
Province Lands, Provincetown, reclamation . . . . .	—	4,988 63
Rock Harbor, Orleans, timber bulkhead, platform and dredging . . . . .	4,000 00	8,962 53
Rockport Harbor, Rockport, survey . . . . .	—	5 96
Salisbury Beach, survey . . . . .	—	297 25
Saugus River, Lynn and Saugus, survey . . . . .	—	10 44
Scituate Shore Protection:		
Sand Hills to Shore Acres, shore protection . . . . .	—	50 00
Sand Hills to Scituate, seawall, jetties and survey . . . . .	—	467 48
North Scituate, Surfside, seawall repairs . . . . .	—	1,267 36
Scituate Harbor, dredging . . . . .	—	11,491 67



<i>Location and Character of Work</i>	Contributions	Expenditures
Sengekontacket Pond, Oak Bluffs, survey . . . . .	—	225 00
Singing Beach, Manchester, stone riprap . . . . .	—	8,714 22
Smith's Cove, Gloucester, survey and dredging . . . . .	—	16,318 15
South Harwich, jetties . . . . .	—	900 48
South Hyannis, Barnstable, survey . . . . .	7,987 34	41 15
South Yarmouth Beach, Yarmouth, jetties . . . . .	5,000 00	8,480 86
Waquoit Bay, Falmouth, jetty repairs . . . . .	—	9,288 68
Water Conservation . . . . .	—	5,000 00
West Chop, Tisbury, riprap . . . . .	—	7,929 46
West Dennis—see Dennis		
Westport River, Westport, survey . . . . .	—	476 70
Winthrop Shore, Winthrop, breakwater . . . . .	—	43,854 04
Wrecks, removal from tidewater . . . . .	—	95 73
Improvement of Rivers and Harbors, general ex- penses . . . . .	—	11,529 65
	<hr/>	<hr/>
	\$74,587 34	\$377,331 94

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1935, INCLUSIVE, FOR RIVER  
AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC  
WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging . . . . .	—	\$119,810 10
Allens Harbor, Harwich, shore protection, dredg- ing, riprap and jetties . . . . .	\$20,927 50	51,378 37
Allens Pond, Dartmouth, survey . . . . .	—	195 95
Angle Tree Monument—Reservation . . . . .	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap . . . . .	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, sur- vey, dredging and stone breakwater . . . . .	—	55,786 05
Barlow's River, Pocasset Harbor, Bourne . . . . .	—	207 79
Barnstable Harbor, Barnstable, dredging . . . . .	7,500 00	30,693 16
Bass River, Beverly, dredging . . . . .	57,535 75	84,953 51
Bass River, Dennis and Yarmouth, jetties, dredging and survey . . . . .	25,095 00	192,092 22
Beach Street, Scituate—see Scituate		
Beverly Harbor, Beverly, dredging . . . . .	—	50,000 00 <sup>1</sup>
Brant Rock, Marshfield, shore protection . . . . .	111,503 66	231,026 89
Brewster, Skaket Inlet, survey . . . . .	—	617 19
Bucks Creek, Chatham, jetties, survey and dredg- ing . . . . .	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey . . . . .	—	166 11
Cape Cod Canal Pier, Bourne, construction . . . . .	—	264,267 22
Cape Cod Canal Pier, Bourne, operation and maintenance . . . . .	—	11,025 18
Cape Poge, Edgartown, cut through beach, dredg- ing, jetties and riprap . . . . .	16,500 00	60,636 03 <sup>2</sup>
Cataumet Harbor—see Megansett Harbor		
Cedar Point, Scituate—see Scituate		
Centerville River, Barnstable, dredging . . . . .	19,711 50	44,329 77
Chatham, riprap and surveys . . . . .	10,500 00	19,853 19
Cohasset Harbor, Cohasset, breakwater and dredg- ing . . . . .	42,691 88	116,191 93

<sup>1</sup> State funds expended under direction of U. S. Government.

<sup>2</sup> \$17,543.96 expended from U. S. Government funds (Emergency Public Works Administration).

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Concord River, Billerica, removing boulders . . .	150 00	1,664 59
Connecticut River, Agawam, protective work . . .	—	18,814 42
Connecticut River, Chicopee, survey wall and riprap . . .	640 00	25,789 02
Connecticut River, Deerfield, survey and riprap . . .	—	1,227 31
Connecticut River, investigation of navigation and surveys . . .	—	8,878 96
Connecticut River, Greenfield, survey and riprap . . .	—	1,607 76
Connecticut River, Hadley, survey, diversion wall and riprap . . .	7,000 00	124,596 54 <sup>3</sup>
Connecticut River, Hatfield, dikes and riprap . . .	1,000 00	51,568 48
Connecticut River, Holyoke, dredging and protec- tive work . . .	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers . . .	—	1,195 32
Connecticut River, Northampton, riprap . . .	—	1,524 20 <sup>4</sup>
Connecticut River, Northampton, riprap . . .	—	617 37
Connecticut River, Northfield, survey and riprap . . .	—	14,268 66
Connecticut River, South Hadley, wall . . .	1,000 00	7,379 58
Connecticut River, Springfield and West Spring- field, protective work . . .	—	15,017 85 <sup>5</sup>
Conservation of Waters, investigation . . .	—	93,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs . . .	17,845 10	92,828 26
Cuttyhunk Harbor, Gosnold, jetties and dredging . . .	10,000 00	83,935 78
Deacon Pond Harbor—see Falmouth Inner Harbor Dennis:		
Dennisport, stone jetty . . .	1,200 00	2,315 47
Nobscusset Harbor, breakwater and riprap . . .	6,710 00	48,564 29
North Dennis, stone jetty . . .	1,200 00	4,819 70 <sup>7</sup>
Swan Pond River, stone jetties . . .	1,750 00	3,906 74
West Dennis, stone jetty and survey . . .	750 00	1,709 03
Duxbury Bay and Harbor, dredging and survey . . .	35,000 00	109,104 31
East Bay, Osterville, jetties, dredging and removing scows . . .	10,000 00	70,969 75
Edgartown Harbor, Edgartown, survey and cut in beach . . .	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs . . .	—	21,108 64
Essex County Beaches, survey . . .	—	1,000 00
Essex River, Essex, dredging . . .	—	76,304 33 <sup>6</sup>
Fall River Harbor, improvement . . .	—	1,130 18
Falmouth, Great Pond, channel excavation and jetty . . .	5,000 00	10,508 89
Falmouth Heights, Falmouth, survey, seawall and riprap . . .	23,460 04	73,351 19
Falmouth Inner Harbor, dredging, jetties, wall and riprap . . .	33,500 00	154,279 63
Falmouth, Menauhant Shore, bulkheads, jetties and riprap . . .	3,100 00	6,075 33
Falmouth, Old Silver Beach (Herring River), stone jetty . . .	2,000 00	3,069 30

<sup>3</sup> From 1888, inclusive.<sup>4</sup> This location is now part of Holyoke.<sup>5</sup> From 1891, inclusive.<sup>6</sup> Includes \$5,000 expended by U. S. Government.<sup>7</sup> Transferred \$2,603.37 from Nobscusset Harbor, Dennis.



<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
First and Second Cliffs, Scituate—see Scituate		
Fresh Water Cove, Gloucester, dredging . . . . .	3,300 00	17,477 53
Gay Head, survey . . . . .	—	555 42
Geological Survey Trust Fund . . . . .	3,000 00	3,000 00
Glades, North Scituate—see Scituate		
Gloucester Fish Pier . . . . .	—	396 91
Gloucester, Western Avenue, sea wall . . . . .	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and re- moving ledges . . . . .	15,000 00	148,802 79
Great Head, Winthrop—see Winthrop Shore		
Great Ponds, survey . . . . .	—	30,534 31
Green Harbor, Marshfield, jetties, dredging and survey . . . . .	42,500 00	167,361 13
Gun Rock Point, Hull, breakwater and seawall repairs . . . . .	16,135 41	77,939 33
Harbor Cove, Gloucester, survey and dredging . . . . .	3,866 00	25,155 04
Harwichport Beach, Harwich, shore protection . . . . .	6,000 00	9,389 07
Harwich Shore, near Chatham Line, stone jetty . . . . .	350 00	1,206 75
Harwich Shore, Chatham to Dennis, survey . . . . .	—	2,040 01
Herring Creek, Scituate, survey . . . . .	—	253 76
Herring River, Harwich, jetties, dredging and riprap . . . . .	38,300 00	136,669 22
Herring River, Wellfleet, dikes and ditches . . . . .	10,000 00	44,714 55
Hoosac River, North Adams, excavation and survey . . . . .	—	21,271 67
Housatonic River, Sheffield, survey . . . . .	—	2,011 29
Hull, seawall and jetties . . . . .	8,882 06	42,093 96
Humarock Beach, Scituate—see Scituate		
Hyannis Harbor, Barnstable, bulkhead, dredging and riprap . . . . .	21,750 00	45,582 46
Hyannisport, Squaw Island Road, Barnstable . . . . .	2,700 00	72 12
Hyannisport, Barnstable, survey and breakwater . . . . .	20,500 00	101,465 33
Hyannisport, Halls Creek, Barnstable, survey . . . . .	—	112 10
Improvement of Rivers and Harbors, general ex- penses . . . . .	—	73,896 24
Ipswich River, Ipswich, jetty wall, riprap and dredging . . . . .	3,800 00	60,087 07
Kings Beach, Swampscott, removal of obstruction . . . . .	—	166 41
Lagoon Pond, Tisbury and Oak Bluffs, survey, dredging and jetty . . . . .	13,500 00	26,075 99
Lake Anthony, Oak Bluffs, survey, jetties and dredging . . . . .	16,000 00	98,571 08
Lake Quannapowitt, Wakefield, investigation . . . . .	—	345 32
Lake Quinisigamond, Worcester, investigation . . . . .	—	1,760 56
Lake Tashmoo, Tisbury, survey . . . . .	—	432 88
Lewis Bay, Barnstable, survey and dredging . . . . .	18,809 29	66,874 33
Little Harbor, Cohasset, survey . . . . .	500 00	1,476 77
Little Harbor, Marblehead, dredging . . . . .	2,500 00	11,166 16
Little River, Gloucester, survey . . . . .	—	862 93
Lobster Cove, Gloucester, dredging . . . . .	4,500 00	61,603 36
Long Beach, Rockport, seawall . . . . .	27,700 00	57,306 56
Lynn Harbor, Lynn, anchorage basin, survey and dredging . . . . .	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling . . . . .	37,500 00	165,932 29
Manchester Harbor, Manchester, survey, jetties and dredging . . . . .	83,000 00	207,581 75

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Manomet Point, Plymouth, stone riprap and fill . . . . .	7,250 00	13,920 20
Marine Borer Investigations . . . . .	—	755 43
Marshfield-Duxbury, survey . . . . .	—	358 61
Mattapoisett Harbor, survey . . . . .	—	255 48
Megansett Harbor, Bourne and Falmouth, dredg- ing . . . . .	13,330 00	53,459 84
Menamsha Inlet, Chilmark and Gay Head, jetties, dredging, seawall and riprap . . . . .	2,700 00	153,994 71
Merrimack River, investigation . . . . .	—	1,208 50
Merrimack River Mouth, Newburyport, survey . . . . .	—	111 87
Mill River, Gloucester, survey and dredging . . . . .	300 00	24,899 59
Mitchells River, Chatham, survey and dredging . . . . .	6,000 00	23,113 92
Monument Beach, Bourne, survey . . . . .	—	326 40
Nahant, survey and riprap . . . . .	15,000 00	30,177 19
Namequoit River and Pleasant Bay, Chatham, dredging . . . . .	6,250 00	31,943 68
Nantucket Harbor, dredging . . . . .	5,000 00	58,982 52
Nantucket, Hither Creek, survey . . . . .	—	220 45
Nantucket, survey of Sesachacha Pond . . . . .	—	110 66
Nauset Harbor and Town Cove, Orleans, dredging . . . . .	2,000 00	10,671 24
New Bedford Harbor, dredging . . . . .	—	18,856 57
New Bedford State Pier, shed, dredging, repairs and alterations . . . . .	13,446 74 <sup>8</sup>	562,934 19
New Bedford State Pier, operation and maintenance . . . . .	—	89,571 99
Newburyport Harbor, survey . . . . .	—	115 97
Nobscusset Harbor, Dennis—see Dennis		
North Dennis—see Dennis		
North River, Marshfield, survey and removing rocks . . . . .	1,800 00	8,658 75
North River, Salem, survey . . . . .	—	719 45
North Scituate—see Scituate		
Oak Bluffs, removing rocks . . . . .	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties . . . . .	60,000 00	160,757 24
Ocean Grove, Swansea, survey . . . . .	—	143 23
Onset Bay, Wareham, survey and dredging . . . . .	1,000 00	15,866 55
Orleans, survey . . . . .	—	104 18
Palmers Pond, Falmouth, survey . . . . .	—	358 76
Pamet River, Truro, survey, dredging and repair- ing jetties . . . . .	1,200 00	198,429 21
Paskamansett River, Dartmouth, dredging and jetty . . . . .	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey . . . . .	—	5,192 95
Pines River, Revere and Saugus, survey . . . . .	—	904 80
Pleasant Bay, Chatham, dredging . . . . .	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey . . . . .	—	983 31
Plymouth Harbor, dredging and removing old piling . . . . .	92,794 55 <sup>9</sup>	352,760 74
Plymouth Memorial Park, dredging and mainte- nance . . . . .	—	86,719 26
Point Shirley, Winthrop—see Winthrop Shore		
Poponessett Bay, Barnstable and Mashpee, dredg- ing . . . . .	—	46,252 33
Powow River, Amesbury, dredging channel and rip- rapping wall . . . . .	—	502 94

<sup>8</sup> Paid by Surety Company.<sup>9</sup> \$57,000 expended under direction U. S. Government.



<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Province Lands, Provincetown, reclamation . . .	—	176,276 81
Provincetown Harbor, shore protection . . .	2,575 00	45,302 99
Quamquisset Harbor, Falmouth, survey . . .	—	710 31
Quanset Harbor, Orleans, survey and dredging . .	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier . . .	—	275 00
Revere, stone breakwater . . .	—	60,397 93
Rock Harbor, Orleans, timber bulkhead, platform and dredging . . .	10,400 00	37,753 77
Rockport Harbor, Rockport, dredging and remov- ing rocks . . .	4,750 00	32,945 41
Roughans Point, Revere . . .	—	250 65
Sagamore Beach, Bourne, stone jetties and riprap .	5,000 00	10,591 83
Salem Harbor, Salem, survey . . .	—	1,509 92
Salisbury Beach, survey . . .	—	5,051 52
Salt Pond River, Eastham, survey . . .	—	210 11
Salters Point, Dartmouth, breakwater . . .	4,500 00	42,939 57
Sand Hills, Scituate—see Scituate		
Sandwich Harbor, Sandwich, dredging channel, rip- rap and jetties . . .	—	80,579 84
Saugus River, Lynn and Saugus, survey and dredg- ing . . .	2,000 00	20,855 61
Scituate, shore protection . . .	75,000 00	
Beach Street, Scituate, wall and breakwater . .	17,333 52	34,782 50
Cedar Point, Scituate, wall and breakwater . .	21,446 64	41,298 70
First and Second Cliffs, Scituate, wall and riprap .	2,797 92	19,553 12
Glades, North Scituate, filling and riprap . .	13,250 78	40,164 61
Humarock Beach, Scituate, survey, wall and jetties . . .	37,816 38	83,583 74
North Scituate, Surfside, sea wall, jetties and riprap . . .	2,194 68	34,412 20
Sand Hills, Scituate, survey, wall and jetties . .	6,011 26	38,170 07
Third Cliff, Scituate, riprap and survey . .	75,193 10	139,384 98
General Surveys at Scituate . . .	—	543 73
Shore Acres, Scituate, riprap . . .	—	20,488 98
Sand Hills to Shore Acres, sea wall, jetties and riprap . . .	—	33,490 52
Scituate Harbor, dredging and surveys . . .	53,300 00	217,503 61
Scorton Harbor, Sandwich, jetty and dredging . .	500 00	17,774 34
Seapuit River, Barnstable, dredging . . .	13,000 00	25,110 95
Sengekontacket Pond, Oak Bluffs, survey . . .	—	329 28
Sesuit Harbor, Dennis, jetty . . .	1,500 00	24,555 10
Shirley Gut, Winthrop, survey . . .	—	201 06
Singing Beach, Manchester, survey . . .	7,562 50	12,732 92
Sippican Harbor, Marion, survey . . .	—	615 66
Smiths Cove, Gloucester, survey and dredging . .	3,875 00	29,784 31
South Harwich, stone jetties and riprap . . .	2,500 00	5,351 97
South Hyannis, Barnstable, survey . . .	7,987 34	41.15
South River, Marshfield and Scituate, survey . .	—	724 85
South River, Salem, dredging . . .	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation . . .	—	203 42
South Yarmouth Beach, Yarmouth, jetties . .	5,000 00	8,480 86
Stage Harbor, Chatham, dikes and survey . .	—	14,901 80
Stream Gauging—see Conservation of Waters		
Swampscott, survey . . .	—	103 46
Swan Pond River, Dennis—see Dennis		

<i>Location and Character of Work</i>	Contribution by		Total
	Municipality	or Others	Expenditure
Taunton-Brockton, waterway investigation . . . . .	—	—	5,278 18
Taunton River, survey and dredging . . . . .	42,500	00	31,561 95
Taunton River-Boston Harbor Canal, survey . . . . .	—	—	9,932 75
Taunton River-Massachusetts Bay Canal, survey . . . . .	—	—	11,786 71
Truro Beach, survey . . . . .	—	—	71 74
Vineyard Haven Harbor, Tisbury, breakwater and dredging . . . . .	1,000	00	45,518 25
Vineyard Haven Harbor, repairing sea wall . . . . .	2,380	50	11,945 01
Waquoit Bay, Falmouth, breakwater, wall, bulkhead and dredging . . . . .	17,500	00	107,727 59
Wareham River, Wareham, survey and dredging . . . . .	5,000	00	42,567 93
Warrens Cove, Plymouth, sea wall and survey . . . . .	15,213	98	38,412 87
Watch Hill, Chatham, survey and riprap . . . . .	—	—	14,968 75
Water Conservation—see Conservation of Waters			
Wellfleet Harbor, Wellfleet, survey and dredging . . . . .	1,500	00	17,600 29
West Bay, Barnstable and Osterville, dredging, jetties and riprap . . . . .	17,216	35	120,337 08
West Chop, Tisbury, stone jetties . . . . .	6,500	00	13,045 53
West Dennis Beach—see Dennis			
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater . . . . .	23,973	75	69,107 05
West Harwich Beach, Harwich, shore protection . . . . .	6,400	00	27,242 50
Western Avenue Seawall, Gloucester — see Gloucester			
Westfield River, Westfield, survey and jetties . . . . .	—	—	6,037 29
Westport Harbor, Westport, jetty extension and repairs . . . . .	—	—	21,928 88
Westport River, Westport . . . . .	—	—	476 70
Wild Harbor, Falmouth, jetty and dredging . . . . .	15,000	00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work . . . . .	81,500	00	341,698 89
Wychmere Harbor, Harwich, jetties and dredging . . . . .	6,500	00	70,027 91
Woods Hole, Great Harbor, Falmouth, dredging . . . . .	1,500	00	6,968 86
Wrecks, removal from tidewater . . . . .	—	—	21,803 04
Yarmouthport Harbor, survey . . . . .	7,000	00	95,977 37
Total . . . . .	\$1,789,954	47	\$9,110,531 03

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1935, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE No. 1. — *Localities at Present Under Improvement*

<i>Locality</i>	Expenditures	Appropriations
Gloucester Harbor and Annisquam River . . . . .	\$552,639 65	\$552,639 65
Lynn Harbor . . . . .	797,797 49	813,940 94
Boston Harbor . . . . .	14,730,439 60	14,747,231 81
Plymouth Harbor . . . . .	471,881 35	471,881 35***
Cape Cod Canal . . . . .	18,515,518 39	24,444,384 79
Operating and Care, Cape Cod Canal . . . . .	1,650,597 99	1,835,946 01
Pollock Rip Shoals, Nantucket Sound . . . . .	1,437,921 25	1,517,029 26
Cross Rip Shoals, Nantucket Sound . . . . .	42,837 20	48,837 20
New Bedford and Fairhaven Harbor . . . . .	1,339,922 28	1,750,703 34

\*\*\* Exclusive of \$108,400 contributed funds.



<i>Locality</i>	Expenditures	Appropriations
Fall River Harbor . . . . .	790,149 49	790,149 49
Taunton River . . . . .	383,838 10	383,838 10
Total . . . . .	\$40,713,542 79	\$47,356,581 94

TABLE No. 2. — *Localities in Which Work is Not Now in Progress*

<i>Locality</i>	Expenditures	Appropriations
Newburyport Harbor . . . . .	\$506,708 13	\$506,708 13
Merrimack River . . . . .	404,466 72	404,466 72
Malden River . . . . .	149,950 00	149,950 00***
Sandy Bay, Cape Ann, Harbor of Refuge . . . . .	1,941,478 00	1,941,478 00
Bass River . . . . .	20,150 41	20,150 41
Buzzards Bay Harbor . . . . .	2,500 00	2,500 00
Canapitset Channel . . . . .	9,112 54	9,800 00
Chatham Harbor . . . . .	12,171 36	13,732 79
Cohasset Harbor . . . . .	10,000 00	10,000 00
Duxbury Harbor . . . . .	37,000 00	37,000 00
East Dennis Breakwater . . . . .	7 57	1,500 00
Edgartown Harbor . . . . .	25,000 00	25,000 00
Essex River . . . . .	30,000 00	30,000 00
Hingham Harbor . . . . .	38,316 58	38,316 58
Hyannis Harbor . . . . .	221,787 75	221,267 07
Ipswich River . . . . .	5,617 91	5,617 91
Kingston Harbor . . . . .	8,940 09	10,000 00
Little Harbor, Woods Hole . . . . .	18,000 00	18,000 00
Manchester Harbor . . . . .	23,985 57	23,985 57
Marblehead Harbor . . . . .	833 42	1,900 00
Martha's Vineyard (Edgartown Harbor) . . . . .	30,000 00	30,000 00
Powow River . . . . .	50,940 72	51,000 00
Rockport Harbor . . . . .	91,229 23	91,229 25
Town River . . . . .	37,577 41	37,577 41
Vineyard Haven Harbor . . . . .	55,387 35	55,387 35
Wareham Harbor . . . . .	95,997 30	96,236 00
Wellfleet Harbor . . . . .	11,365 57	16,000 00
Westport Harbor and River . . . . .	3,000 00	3,000 00
Winthrop Harbor . . . . .	9,000 00	9,000 00
Woods Hole Channel . . . . .	343,599 92	344,000 00
Beverly Harbor . . . . .	246,690 41	246,690 41**
Salem Harbor . . . . .	107,956 57	107,956 57
Mystic River . . . . .	306,684 84	781,684 84
Dorchester Bay and Neponset River . . . . .	128,176 44	128,176 44
Weymouth Fore River . . . . .	641,150 00	641,150 00**
Weymouth Back River . . . . .	27,000 00	27,000 00
Scituate Harbor . . . . .	126,590 98	126,590 98
Provincetown Harbor . . . . .	348,062 72	348,062 72
Harbor of Refuge at Nantucket . . . . .	694,860 29	809,082 83
Total . . . . .	\$6,821,295 82	\$7,421,197 98

RECAPITULATION

Total of Table No. 1 . . . . .	\$40,713,542 79	\$47,356,581 94
Total of Table No. 2 . . . . .	6,821,295 82	7,421,197 98
Total . . . . .	\$47,534,838 61	\$54,777,779 92

\*\* Exclusive of \$100,000 contributed funds.  
\*\*\* Exclusive of \$62,000 contributed funds.





## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
411	West Chop, Tisbury,—shore protection . . .	Merritt-Chapman and Scott Corporation	Aug. 28, 1934
413	Winthrop Breakwater Extension . . .	William R. Farrell .	Aug. 1, 1934
414	Bass River, Beverly,—dredging . . .	Bay State Dredging & Contracting Co. .	Jan. 8, 1935
416	Manomet Point, Plymouth,—protective work .	M. J. Crowley . .	Aug. 21, 1934
417	Singing Beach, Manchester,—protective work .	Thomas A. Mackey .	Aug. 28, 1934
418	Hough's Neck, Quincy,—shore protection . .	City of Quincy . .	Aug. 14, 1934
419	Mystic River,—dredging above and below Malden Bridge	J. S. Packard Dredging Company . . .	Sept. 11, 1934
421	Repairs to pile and timber work at Commonwealth Piers No. 1 and No. 5, at Boston	W. H. Ellis & Son Company	Oct. 30, 1934
422	Commonwealth Piers No. 1 and No. 5, and E Street Storehouse—Roof repairs	Atlantic Roofing & Skylight Works	Nov. 7, 1934
423	Commonwealth Pier 5,—installation of new sash and replacement of broken glass	Maurice M. Devine .	Nov. 13, 1934
424	Pier 1, East Boston,—steel sliding doors . .	Roy Wason . . .	Nov. 13, 1934
425	Castle Island Bulkhead, South Boston . .	John P. Cavanagh .	Nov. 27, 1934
426	Commonwealth Pier 5,—painting doors and sash in Headhouse	John S. Leonard . .	Nov. 13, 1934
427	Commonwealth Pier 1, East Boston,—movable gangway	Waghorne-Brown Company	Nov. 20, 1934
428	Nobscusset Harbor, Dennis—stonerip-rap . .	Thomas Whalen & Sons, Inc.	Jan. 15, 1935
429	Singing Beach, Manchester,—stone riprap . .	Thomas Whalen & Sons, Inc.	Feb. 5, 1935
430	Great Pond, Falmouth, excavation and jetty .	Frederick V. Lawrence .	May 21, 1935
432	Duxbury Bay, Duxbury—dredging . . .	Bay State Dredging and Contracting Company	Apr. 30, 1935
433	Rock Harbor, Orleans—dredging . . .	Herbert T. Gerrish .	May 21, 1935
434	Falmouth Inner Harbor and West Falmouth Harbor, dredging	Herbert T. Gerrish .	May 21, 1935
435	Old Silver Beach, Falmouth . . .	Frederick V. Lawrence .	May 21, 1935
436	Mystic River,—dredging above and below Malden Bridge	J. S. Packard Dredging Company . . .	July 2, 1935
437	Hyannisport Breakwater—stone extension . .	Bay State Dredging and Contracting Company.	June 11, 1935

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1935

Condition of Work	Contract Price
Completed Jan. 12, 1935	For each ton of stone riprap or chips furnished in place in the completed work, \$4.86.
Completed Jan. 6, 1935	For each ton of stone riprap furnished in place in the completed work, \$1.97.
Completed Mar. 11, 1935	For dredging and disposing of dredged material 50 cents per cubic yard, scow measurement. For removing and disposing of boulders \$20 per cubic yard.
Completed Mar. 9, 1935	For stone riprap furnished in place in the completed work, \$1.75 per ton. For furnishing material and filling back of riprap, 30 cents per cubic yard measured in place in the completed work.
Completed Mar. 23, 1935	For each ton of riprap furnished and placed in the completed work, \$1.85. For each cubic yard of gravel or crushed stone furnished and placed in the completed work, 90 cents. For each square yard of bank graded including the furnishing of material and incidental work, 20 cents.
In progress	Commonwealth to pay to City one-half of cost of all labor other than that furnished by Federal Government, one-half actual cost of materials and tools furnished, and one-half actual prices paid for rental of machinery and equipment employed in performance of work, provided the total amount to be paid by the State to the City does not exceed \$10,000,—as authorized by Ch. 322 of Acts of 1934 and by Item 60A of Ch. 384 of the Acts of 1934.
Completed Dec. 28, 1934	For dredging and disposing of dredged material 34.5 cents per cubic yard, scow measurement. For removing and disposing of all boulders \$20 per cubic yard.
Completed Feb. 8, 1935	Unit prices.
Completed May 21, 1935	Unit prices.
Completed Apr. 17, 1935	For each light of glass furnished and set to replace broken glass, 70 cents. For each new sash approximately 18 ft. 4 <sup>7</sup> / <sub>8</sub> in. by 9 ft. 7 <sup>3</sup> / <sub>4</sub> in. furnished and set, \$112. For each new sash approximately 18 ft. 4 <sup>7</sup> / <sub>8</sub> in. by 8 ft. 3 <sup>3</sup> / <sub>8</sub> in. furnished and set, \$90. For each steel sliding door furnished and erected, \$146.
Completed May 7, 1935	For removing about 980 linear feet of bulkhead and disposing of all material, except that used in repair work, \$2.75 for each linear foot of bulkhead removed.
Completed Oct. 29, 1935	For repairing bulkhead by splicing and patching, \$40 for each M Ft. B M of lumber placed in the work. For repairing bulkhead by driving sheeting \$60 for each M Ft. B M of lumber placed in the work. For refitting and securing piles \$5 for each pile refitted and secured. For furnishing all ship spikes, bolts and washers, 15 cents for each pound used in the work.
Completed Dec. 21, 1934	For furnishing all material, labor and equipment and painting doors and windows in Headhouse, the lump sum of \$285.
Completed Feb. 12, 1935	For furnishing and erecting in place in complete working order the movable gangway, the lump sum of \$1,844.
Completed May 23, 1935	For each ton of stone riprap furnished in place in the completed work \$2.23.
Completed June 7, 1935	For each ton of riprap furnished and placed in the completed work \$2.50. For each cubic yard of screened gravel or crushed stone furnished and placed in the completed work, \$1.65. For each square yard of bank graded including the furnishing of material and all incidental work, 20 cents.
Completed Sept. 20, 1935	For excavating and disposing of the excavated material, 39 cents for each cubic yard. For removing and disposing of all boulders in excess of one cubic yard in volume, \$1.00 for each cubic yard. For furnishing and placing granite stone riprap and granite chips in the jetty and including all incidental work, \$2.83 per ton.
Completed June 6, 1935	For dredging and disposing of dredged material 59.6 cents per cubic yard, scow measurement. For removing and disposing of boulders \$20 per cubic yard.
Completed Sept. 28, 1935	For dredging channel and basin and disposing of excavated material on marsh or flats adjacent to the work, including the construction of necessary dikes, sluices or other barriers, 46 cents for each cubic yard measured in place. For removing and disposing of all boulders, \$10 for each cubic yard.
In progress	For dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barrier, 56 cents for each cubic yard measured in place. For removing and disposing of all boulders, \$20 per cubic yard.
Completed July 23, 1935	For furnishing and placing stone riprap and granite chips in the jetty and return wall and excavating, including all incidental work, \$2.39 for each ton of 2,000 pounds.
Completed Aug. 12, 1935	For dredging and disposing of the dredged material 54.5 cents per cubic yard, scow measurement. For removing and disposing of boulders \$20 per cubic yard.
Completed Sept. 6, 1935	For each ton of stone riprap furnished in place in the completed work, including all incidental work, \$2.94.



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
438	Allens Harbor and Herring River, Harwich,—dredging.	Herbert T. Gerrish .	June 18, 1935
439	Winthrop,—breakwater extension . . . .	William R. Farrell .	July 9, 1935
440	Plymouth State Pier,—building a pile and timber bulkhead and dredging . . . . .	Lee Construction Com- pany, Inc. . . . .	July 16, 1935
441	Harwich,—shore protection . . . . .	Frederick V. Lawrence .	Aug. 12, 1935
442	East Boston, removal of wreck of towboat "Esther Rendle" from National Docks . . . . .	M & R Construction Company . . . . .	Aug. 13, 1935
443	Waquoit Bay and Falmouth Inner Harbor,—repairs to jetties.	William R. Farrell & Son, Inc. . . . .	Aug. 14, 1935
444	Winthrop,—dredging in Pleasant Park Channel & Belle Isle Inlet.	Bay State Dredging & Contracting Co. . . . .	Aug. 27, 1935
445	Barnstable,—Seawall and jetties at South Hyannis .	Harry L. Jones . . . .	Sept. 3, 1935
446	South Yarmouth Beach,—stone jetties . . . .	Frederick V. Lawrence .	Sept. 3, 1935
448	Squaw Island Road, Barnstable,—stone jetties .	Frederick V. Lawrence .	Sept. 4, 1935
449	Town River, Quincy—dredging . . . . .	J. S. Packard Dredging Co. . . . .	Sept. 4, 1935
450	Onset Bay, Wareham—dredging . . . . .	Herbert T. Gerrish .	Oct. 4, 1935
451	Plymouth Harbor—dredging . . . . .	Bay State Dredging & Contracting Co. . . . .	Oct. 4, 1935
452	Smith's Cove, Gloucester,—dredging . . . .	J. S. Packard Dredging Company. . . . .	Oct. 4, 1935
453	Manchester Harbor,—dredging . . . . .	Bay State Dredging and Contracting Company. . . . .	Oct. 4, 1935
454	Scituate Harbor,—dredging . . . . .	Bay State Dredging and Contracting Company. . . . .	Oct. 4, 1935
455	Menamsha Creek, Chilmark and Gay Head—dredging.	Bay State Dredging and Contracting Company. . . . .	Oct. 4, 1935
456	Commonwealth Pier 5, South Boston—office partitions.	Morris Slotnick . . . .	Nov. 5, 1935

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1935

Condition of Work	Contract Price
Not yet begun (1935)	For dredging and disposing of excavated material on land, flats or at sea, 43 cents for each cubic yard measured in place.
Completed Sept. 3, 1935	For removing and disposing of all boulders, \$20 for each cubic yard.
In progress	For each ton of stone riprap furnished in place in the completed work, \$2.17.
Completed Nov. 23, 1935	For dredging 60 cents per cubic yard measured in place.
Completed Sept. 28, 1935	For removal of boulders, \$5 per cubic yard.
Completed Oct. 22, 1935	For building pier and bulkhead,—unit prices.
	For furnishing and placing granite stone riprap and chips in the jetties, \$2.68, for each ton of 2,000 pounds.
	For removing and disposing of the wreck of the "Esther Rendle," the lump sum of \$723.
	WAQUOIT BAY:
	For each ton of heavy stone riprap furnished in place in the completed work, \$3.37.
	For each ton of stone chips furnished in place in the completed work, \$3.57.
	FALMOUTH INNER HARBOR:
	For each ton of heavy stone riprap furnished in place in the completed work, \$3.37.
	For each ton of fine stone chips furnished in place in the completed work, \$4.27.
Completed Sept. 27, 1935	For each cubic yard of material excavated and backfilled in the completed work, \$1.00.
	For dredging areas specified to depths indicated and disposing of dredged material, 56.8 cents per cubic yard measured in scows.
Not yet completed (1935)	For removing and disposing of all boulders, \$20 per cubic yard.
	For furnishing material and constructing concrete sea wall, including all excavation, back filling, removing old walls, crib work, steps, drains and cesspools and all incidental work, \$9.90 for each cubic yard of concrete measured in the completed work.
Completed Nov. 30, 1935	For furnishing and placing stone riprap and granite chips in the jetties, \$3 for each ton of 2,000 pounds.
In progress	For furnishing and placing granite stone riprap and chips in the jetties, \$2.73 for each ton of 2,000 pounds.
Completed Nov. 15, 1935	For dredging and disposing of dredged material 54 cents per cubic yard, scow measurement.
Not yet completed (1935)	For removing and disposing of boulders \$20 for each cubic yard.
	For removing and disposing of boulders, \$20 per cubic yard.
	For dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barrier, 51.5 cents per cubic yard, measured in place.
In progress	For dredging and disposing of dredged material 54.5 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders, \$20 per cubic yard.
	For dredging and disposing of the dredged material 54 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders \$25 per cubic yard.
	For dredging and disposing of the dredged material 49.8 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders, \$20 per cubic yard.
	For dredging and disposing of the dredged material, 56.3 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders, \$20 per cubic yard.
	For dredging and disposing of excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 54 cents for each cubic yard measured in place.
Completed Nov. 23, 1915	For removing and disposing of boulders, \$20 per cubic yard.
	Unit prices.



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